PACIFIC FISHERMAN

PF

948 YEARBOOK NUMBER

F.A.O. - Fisheries Division
1201 Connecticut Ave., N.W.
Washington 6, D.C.

MR. FISH PACKER —
Your Interests are Our Interests!

That's right—when you place your products with us for sale, your interests are our interests!

You get the benefit of more than thirty years of successful sales promotion for the industry—years of selling experience that have given us a true sense of values in canned sea foods.

Through a nationwide sales organization of associate brokers with whom we are in daily intimate touch by wire and long distance telephone; and by regular personal visits to the major markets of the nation, we offer you a ready and a continuing market for your products.

At Seattle, we specialize in the distribution of all grades and sizes of Alaska, Puget Sound and Columbia River canned salmon, Northwest Albacore tuna and crabmeat. At San Francisco, we feature California sardines, mackerel and tuna.

In addition to selling your pack at top market prices, we render a multiple service to the packers we represent—the efficient handling of the problems of warehousing, labeling, shipping, billing and collections. Our packers are supplied regularly with reliable market information.

List your offerings with us and your pack will be in safe hands. Your interests are our interests!

MEMBERS:
National Food Brokers Association
National Fisheries Institute, Inc.
Association of Pacific Fisheries

REFERENCE:
The National Bank of Commerce of Seattle

McGovern and McGovern
SELLING AGENTS

675 COLMAN BUILDING, SEATTLE 4, WASH. MAIN 4133
1 Drumm Street, SAN FRANCISCO 11, CALIF., Yukon 6-0337

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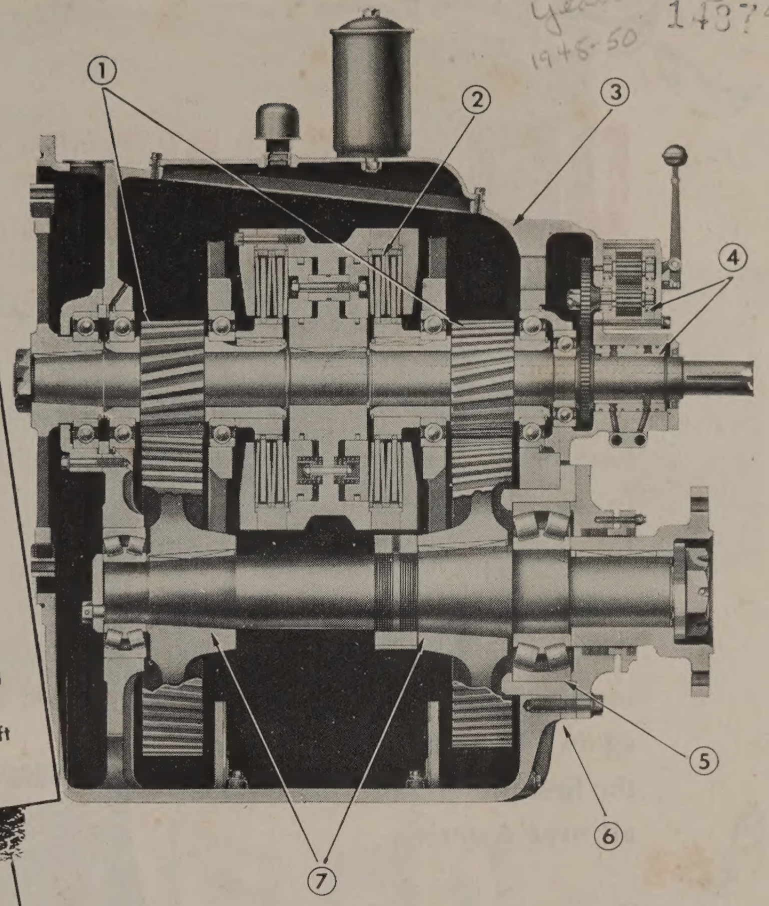
JOHN LAURENCE KASK

Periodical
Pacif. Fisherman
Yearbook
1948-50

1437 60

Advantages Offered by MG-301 . . .

1. Forward and reverse pinions straddle mounted to insure rigidity and alignment.
2. Dished clutch plates for positive, quick release.
3. Two-piece housing split at the centerline of the clutch shaft for ease in servicing.
4. Readily removable unit assembly enclosing all major components of the hydraulic system.
5. Oversize double-row roller bearings to carry the propeller thrust load.
6. Steel cartridge type bearing carrier for heavy-duty bearing mounting.
7. Gears mounted on countershaft with ground tapered fits.

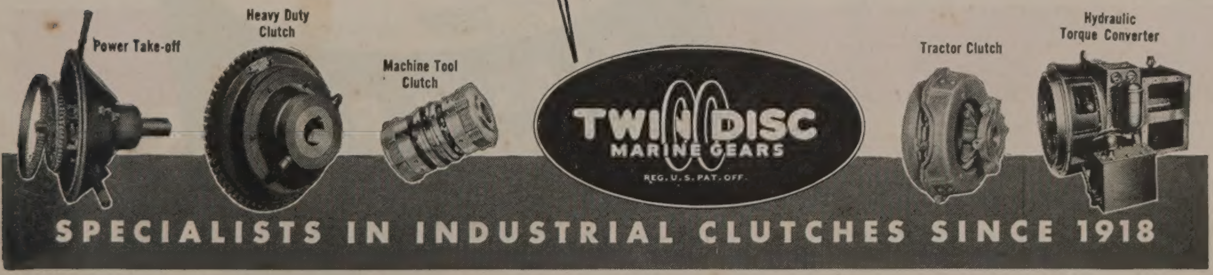


For Diesel Engines Developing up to 325 hp

The new MG-301 is the latest development in the Twin Disc line of Marine Reverse and Reduction Gears.

When equipped with hydraulic coupling for either single or multiple engine drives, the new Twin Disc (hydraulically actuated) MG-301 transmits 325 hp at 1500 rpm. When furnished with rubber-cushioned positive drive for direct connection to the engine flywheel, the MG-301 is rated at 275 hp at 1500 rpm.

For complete information on how the Twin Disc MG-301 Reverse and Reduction Gear can be fitted to your engine, and for recommended capacities at lower operating speeds, write to the Twin Disc Clutch Company, Racine, Wisconsin (Hydraulic Division, Rockford, Illinois).



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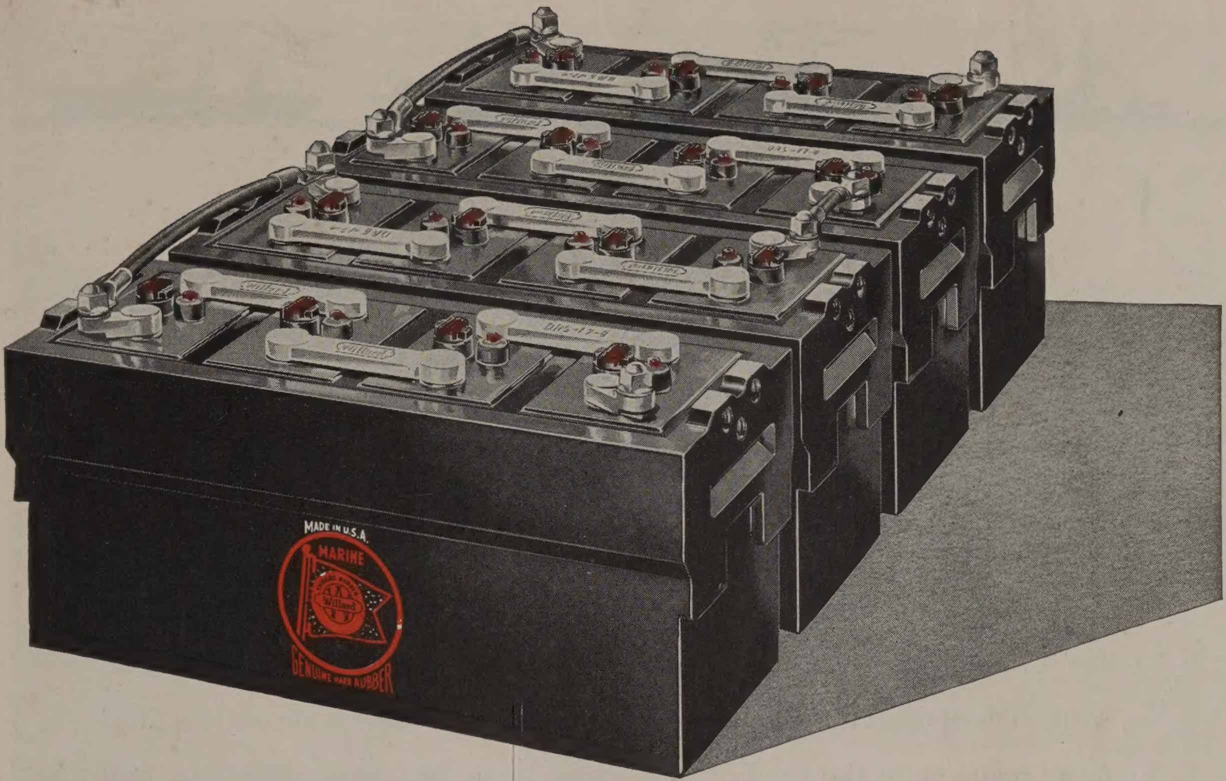
– a name to remember!

And it *is* remembered – and preferred – by millions of American housewives. Years of advertising on the whole Del Monte line, plus the familiar Del Monte label in kitchens and grocery stores all over the country, *keep* housewives reminded.

Today, we can't supply you with nearly as much Del Monte Salmon as we'd like to. But Del Monte is a name for *you* to remember, too. Because when Alaska's finest red salmon is plentiful again – Del Monte will still enjoy the first preference from women all over America.

CALIFORNIA PACKING CORPORATION
San Francisco, California



Quick Starts . . . Long Life

WILLARD BATTERIES — Automobile Truck and Bus • Radio • Motorcycle Tractor • Aircraft • Marine • Diesel Stationary — Sold and serviced by Willard Dealers everywhere.

Willard MARINE BATTERIES

Dependability • Performance • Long Life

WILLARD STORAGE BATTERY CO. • CLEVELAND • LOS ANGELES • DALLAS • TORONTO

A Seafaring Organization

BORN ON THE SEACOAST, and having first tasted salt water on the shores of its home city, Fireman's Fund Insurance Company has followed the sea since the days of iron men and wooden ships. The company was founded at San Francisco in 1863 and, since the glorious days of the clipper ship, the city by the Golden Gate has become a great seaport, and Fireman's Fund has grown until today it ranks first among all American companies writing marine insurance.

Although its operations are world-wide, Fireman's Fund has always remained a *home company* to the Pacific Coast, where its underwriting operations, hull and cargo, and its claim settling facilities reach from the northern extremes of Alaska to the southern boundaries of Chile.

Men of the sea, whether they sail purse seiners, tuna clippers, cargo carriers, or passenger ships like to do business with men who know and understand the perils of the sea—they like to do business with Fireman's Fund.

Ocean and Coastwise ***Hulls and Cargoes***

Marine Department

FIREMAN'S FUND INSURANCE COMPANY

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Departmental Offices: **NEW YORK · CHICAGO · BOSTON · ATLANTA**

Pacific Coast Offices: **SEATTLE · SPOKANE · PORTLAND · SACRAMENTO · OAKLAND · LOS ANGELES**

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Owners advise that "there are several boats in our vicinity with more powerfully *rated* engines, but TIDINGS, with her **UNION** Diesel, was able to pass all of them. As equipped at present, we figure that the TIDINGS is the finest boat in the fishing fleet."

Conservatively rated **UNION** Diesel has enabled TIDINGS to catch more fish for greater profit.

UNION Diesels are available to meet your requirements. For economical, maximum power consistent with utmost dependability, contact **UNION** Diesel before you buy.

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Engine Builders

FOR MORE THAN 50 YEARS OF SERVICE • *This Brand Name was Awarded the* GOLDEN ANNIVERSARY CERTIFICATE *by the* BRAND NAMES FOUNDATION, Incorporated

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Oysters
Tuna
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SALES OFFICES
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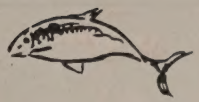
Hauling in tuna



WITH COLUMBIAN ROPE...

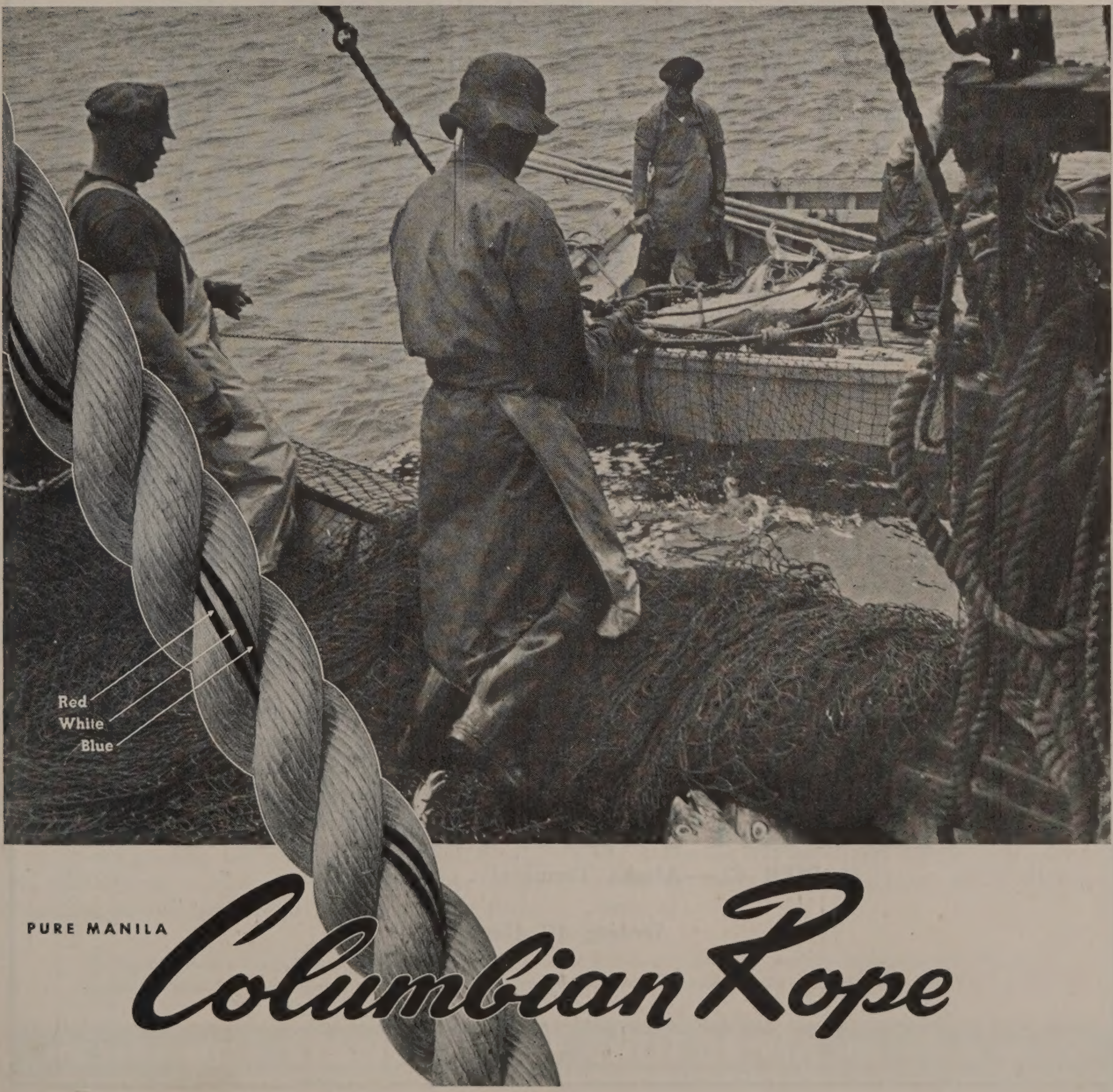
Purse-seining for tuna takes rope—lots of rope. And the men handling the nets prefer Columbian, the rope that is easier to work and that stays on the job longer.

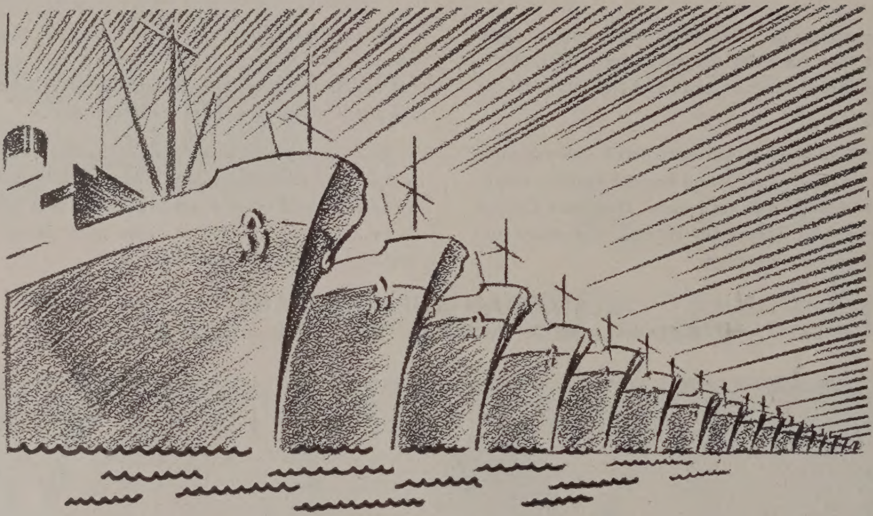
Columbian Rope is waterproofed by an exclusive process; it stays flexible and easy to handle regardless of how big a soaking it gets. This same Columbian treatment staves off rotting, maintains full strength of the rope longer.

Dry or wet, Columbian is the preferred rope for fishing and other marine service. Columbian's correct lay means no kinking and perfect balance . . . the use of prime fiber means extra strength.

You can always tell genuine Columbian Rope at a glance by the red, white and blue surface markers running through one strand ($^3/_4$" Dia. and larger). Insist on the red, white and blue proof of top rope quality . . . *Columbian* Rope.

COLUMBIAN ROPE COMPANY
370-80 Genesee St., AUBURN, "The Cordage City", N.Y.





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From the finest port facilities — Alaska Terminal
Equipped with the latest Radar instruments
Officered by the most experienced personnel
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The backbone of Alaska's economic life —
The Fishing Industry.

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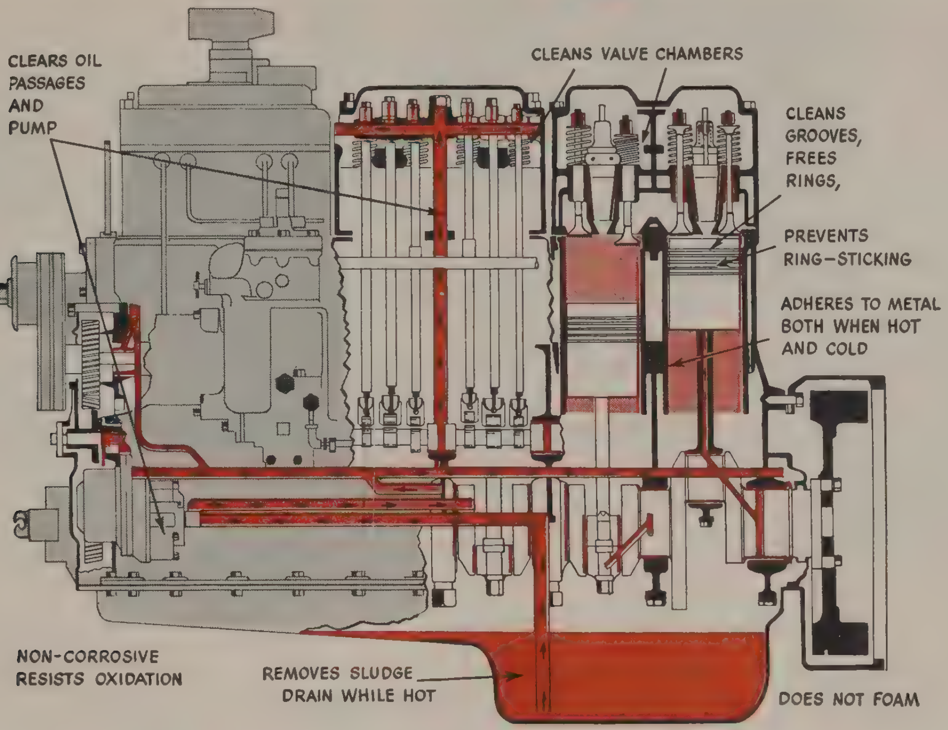
PIER 42 — Alaska Terminal . . . SEATTLE

Serving All Alaska

STANDARD ENGINEERS NOTEBOOK

CALOL

RPM


CLEARS OIL PASSAGES AND PUMP
CLEANS VALVE CHAMBERS
CLEANS GROOVES, FREES RINGS,
PREVENTS RING-STICKING
ADHERES TO METAL BOTH WHEN HOT AND COLD
NON-CORROSIVE RESISTS OXIDATION
REMOVES SLUDGE DRAIN WHILE HOT
DOES NOT FOAM

Heavy duty oil cleans engines while they're running

You can clean carbon, sludge, gum and other harmful matter from boat engines without tearing them down by purging with RPM Heavy Duty Marine Motor Oil.

It will even loosen stuck rings if they are not cemented in too tightly with accumulations of sticky, burned-on gum.

Selected base oils plus patented compounds give RPM Heavy Duty Marine Motor Oil the ability to act on and remove carbonaceous deposits and keep them dispersed in the oil so they can be drained from the engine. The recommended purging procedure follows:

1. Drain present oil from crankcase while hot. 2. Renew filter element to trap abrasive particles that may be carried into circulation during purging. 3. Fill crankcase with RPM Heavy Duty Marine Motor Oil. 4. Run engine at a fast idle for two hours, maintaining water jacket temperature at approximately 200° minimum. 5. Drain again while hot and refill with RPM Heavy Duty Marine Motor Oil. 6. Place engine in regular service and drain at one-half normal drain period for two or three drains. Check oil frequently as removal of deposits may temporarily increase oil consumption. 7. Drain while hot. Check oil filter and replace when necessary. 8. Refill with RPM Heavy Duty Marine Motor Oil or RPM Marine Motor Oil, returning to regular oil drain and filter change period, and continue to use RPM Heavy Duty Marine Motor Oil or RPM Marine Motor Oil.

A Standard Marine Credit Card identifies you for credit on boat services and petroleum products—saves time and helps keep a record of expenses. Apply at any Standard Marine Service Station or write Standard of California, 225 Bush St., San Francisco 20.

FOR EVERY NEED A **STANDARD OF CALIFORNIA** JOB-PROVED PRODUCT

Does your Boat have a Checking Account?

Complete banking service for the fishing industry is offered by the Seattle-First National Bank—service that will help steer you through your financial affairs just as a good pilot steers your boat through heavy seas.

Our various banking offices provide:

- *Boat Checking Accounts*
  That give you a valuable record of your transactions.
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  To help you finance buying or building a boat.

When you bank with the Seattle-First National you deal with friendly home folks with long experience in connection with the fishing industry.

Come in to the most convenient banking office of this bank and consult us freely and in confidence.

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ESTABLISHED
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"Your Friendly Bank"
Member of Federal Deposit Insurance Corporation

Sperry offers a line of marine products that leads straight to good fishing. These products are designed to help you get to the fishing grounds quicker and get back with your catch faster. This means shorter runs and fuel economy — both for better profits.

■ Sperry automatic pilots provide straight-line automatic steering to profitable waters. When the run is on, *all* hands are free to devote their energy to fishing.

■ Then there's the Electro-Mechanical Steering System. This Sperry equipment gives your helmsman finger-tip steering — effortless power steering which allows him to swing the wheel electrically in seconds with positive rudder application and full follow-up control. In case of power failure an instantaneous shift can be made to manual steering. Portable steering controllers can be used to maneuver the boat in following schools of fish closely and in handling nets.

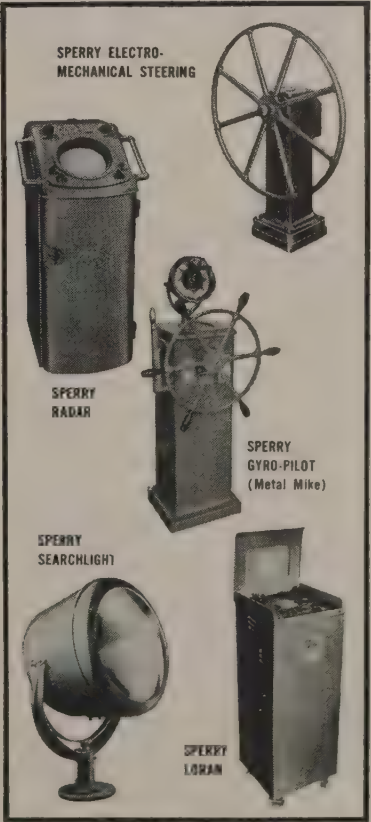
■ On both the automatic and the Electro-Mechanical Steering systems, the Sperry Electric Rudder Indicator provides an accurate indication of rudder position at all times.

■ Sperry Incandescent Searchlights are available in two sizes—14 and 20 inch. They come in three types, Spot, Pedestal and Pilot House for beam and flood lighting.

■ With Sperry Loran you have an accurate, quick and easy method of determining your position at any time — night or day, in fog or storm.

■ For larger fishing vessels, Sperry Radar is designed for minimizing the collision hazard for position indication and as an aid in piloting. It enables your ship to make full headway through fog, rain and darkness.

Every one of these products has features long associated in the marine field with the name "Sperry"—ruggedness, dependability under all sailing conditions. All are backed by Sperry's world-wide service organization.


SPERRY ELECTRO-MECHANICAL STEERING
SPERRY RADAR
SPERRY GYRO-PILOT (Metal Mike)
SPERRY SEARCHLIGHT
SPERRY LORAN

Sperry Gyroscope Company, Inc.

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WIRE FISH TRAP NETTING
MADE IN ALASKA
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WIRE ROPE
MADE ON THE COAST
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Distributed to the Salmon Packers by
PACIFIC MARINE SUPPLY CO.
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DEPENDABLE
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SINCE - 1897

PACIFIC MARINE SUPPLY CO.
1223 WESTERN AVE · SEATTLE 1, WASHINGTON

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Representing Leading Insurance Companies,
Including Direct Representation of Lloyd's, London

Specialists in All Insurance Lines Required By the Fishing Industry

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- **Protection and Indemnity**
- **Workmen's Compensation**
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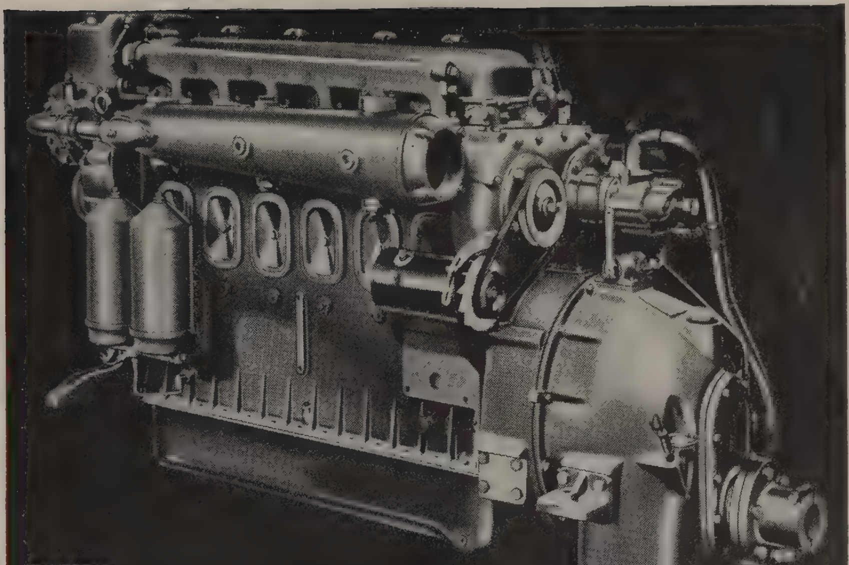
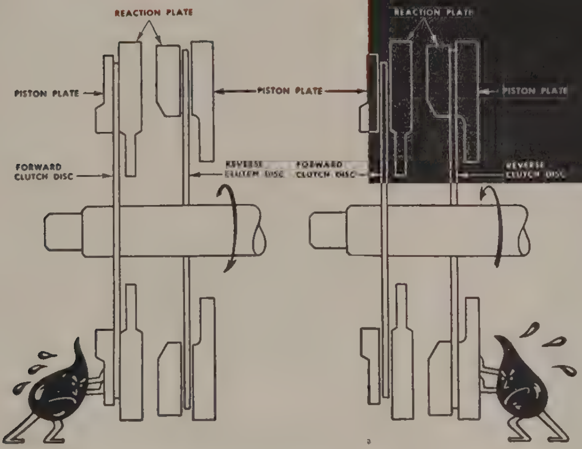
HANSEN & ROWLAND, INC.

Built right into the engine



GM 71 Marine Diesels are now equipped with the new GM hydraulically operated reverse gear. Integral with the engine, it saves space and weight and, being made by the engine manufacturer, the whole becomes one unit with one responsibility.



In the new GM reverse gear, oil does the work.

THE New General Motors Marine Gear

GM Marine Diesels now have hydraulically operated reverse gear built right in. It saves inches of space, pounds of weight, and makes shifting gears a finger-tip job.

A tiny lever runs the show—oil does the work. Push the lever forward and oil pressure moves a piston plate that grips the forward clutch disc. Move it backward and the oil pressure goes to a piston plate that grips a disc attached to a planetary gear that provides reverse motion.

So here you have a smooth, positive, reverse gear that is operated with a simple movement of the lever either at the engine or at the wheel. It works without boosters or external attachments. It's the kind of gear that everyone building or repowering a boat will want. Write for a complete description.

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DETROIT 28, MICH. ● SINGLE ENGINES . . *Up to 200 H.P.*
MULTIPLE UNITS . . *Up to 800 H.P.*

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GM
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DIESEL BRAWN WITHOUT THE BULK

3 SUPER BRANDS

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The brand names of "Blue Sea" and "Sunset" tuna and "Blue Sea" tonno are a pledge of uniform high quality supported by more than 50 years' experience in the canning of California fishery products.

"BLUE SEA" and "SUNSET" SARDINES and MACKEREL

The standards and principles of 50 years, plus our experienced staff and our efficient, up-to-date plant and equipment, have earned similar distinction and popularity for canned sardines and mackerel packed under these labels.

Every case of fish packed by the Southern California Fish Corporation is designed to win new customers and to keep the business of old friends. We will welcome an opportunity to serve your requirements.

SOUTHERN CALIFORNIA FISH CORPORATION

Established 1892

TERMINAL ISLAND
LOS ANGELES HARBOR,
CALIFORNIA

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FISHING & PACKING
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437 WEST ONTARIO, CHICAGO, ILL.
242 FRONT ST., NEW YORK CITY, N. Y.

Producers and Distributors of
Fresh, Frozen, Canned, Filleted
and Salted Halibut and Salmon
and other Pacific Coast Fish

also
VITAMIN LIVERS

GOOD

GOLD MEDAL NETTING
means controlled production in our own plants, from the bale of cotton to the finished netting. This is your assurance of dependable quality.

GOLD MEDAL—THE GREATEST NAME IN NETTING

VICTORIA REGINA
INTERNATIONAL GOLD MEDAL EXHIBITION 1883

Gold Medal Netting

NETTING BUYS

good education

The important things you want for your family, such as better education for your children, come from nets built to boat the fish, not lose them. And nets like that come from the right kind of cotton twisted into good strong twine and then knit so that every knot is firm and every leg of every mesh is even and true. For over a hundred years, now, successful fishermen have depended upon Gold Medal for that kind of netting. Wherever you fish and whatever you catch, there's a Gold Medal Netting made especially to give you better service, bigger catches, more money for your family!

GOLD MEDAL SEINE TWINE—For hand-knitting, bending on, and hanging and mending, get the same high-quality twine that Gold Medal Netting is knit from. Ask for and be sure you get Gold Medal.

Other Netting Products: **AN&T COY LINEN NETTING • GOLD MEDAL SEA ISLAND GILL NETTING • GOLD MEDAL HYDROFLOW TRAWL DOORS • PLYMOUTH ROPE • A COMPLETE LINE OF NETTING ACCESSORIES.**

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Pacific Coast Distributors: Pacific Marine Supply Co., Seattle • Oregon Marine Supply Co., Portland and Astoria • Cincotta Bros., San Francisco and Monterey • Marine Hardware Co., San Pedro and Terminal Island • Nuttall-Styris Co., San Diego • Canadian Representatives: Western Leckie Limited, Vancouver, B. C.

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PACKING COMPANY

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FRESH, FROZEN & SMOKED FISH

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SEATTLE 4, WASH.

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ALL GRADES

ALASKA & PUGET SOUND

SALMON

SELLING AGENTS
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VANCOUVER, B. C.

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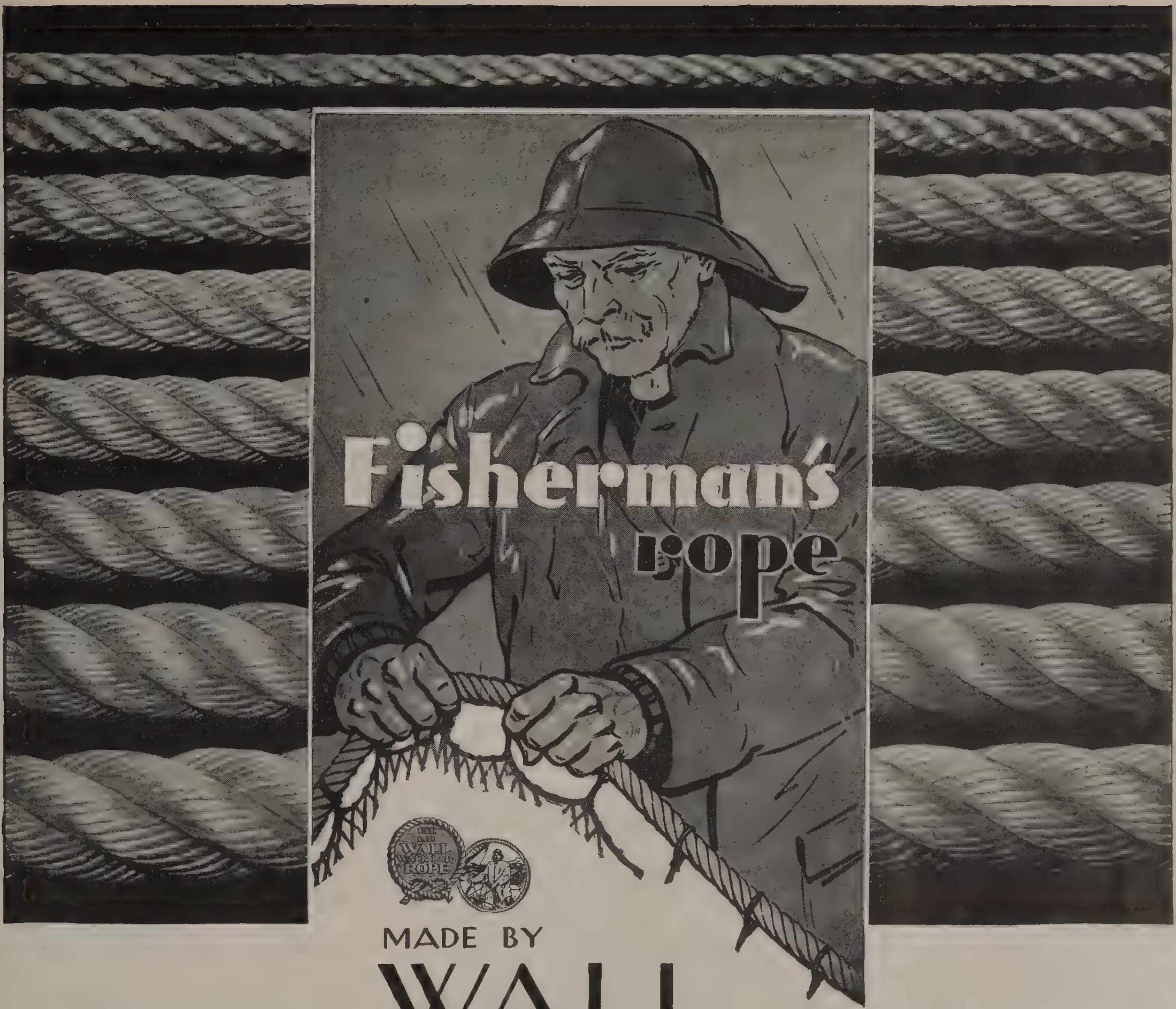

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WALL

STOCKED AND DISTRIBUTED IN THE PACIFIC NORTHWEST BY

WEEKS-HOWE-EMERSON CO.
San Francisco, California

THE BEEBE COMPANY
Portland, Oregon

NORDBY SUPPLY CO.
Seattle, Washington

LIKE the worthwhile things in life--Reputation must be earned. No claims can make, no money buy what consistently fine performance over the years means to a manufacturer in good-will and name..."Established 1830" is not just a birth date in Wall Rope history. It founds a product reputation that has been time tested by 117 years.

The Wall label on coil of rope means quality--proofed in age.

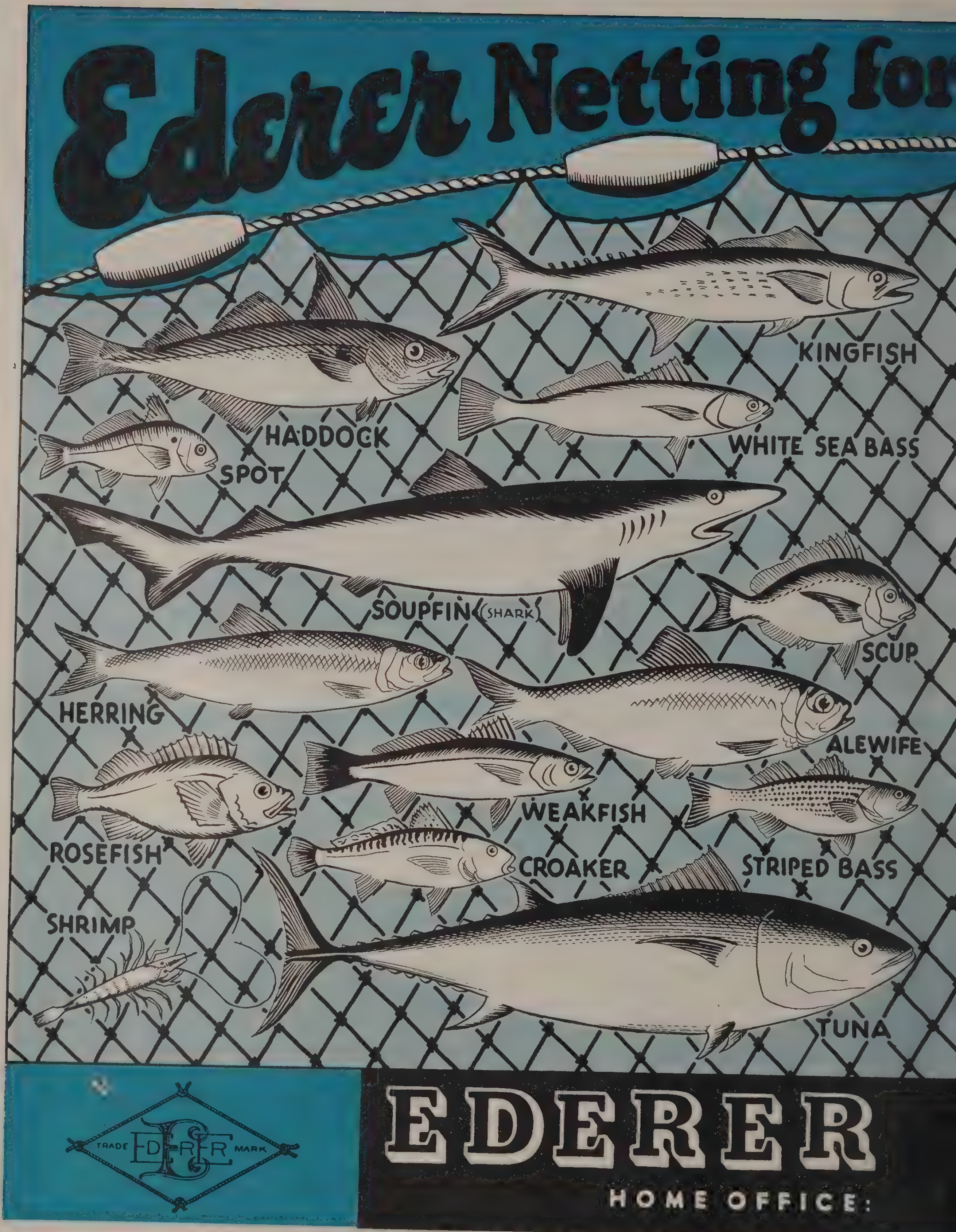
WALL ROPE WORKS, INC.

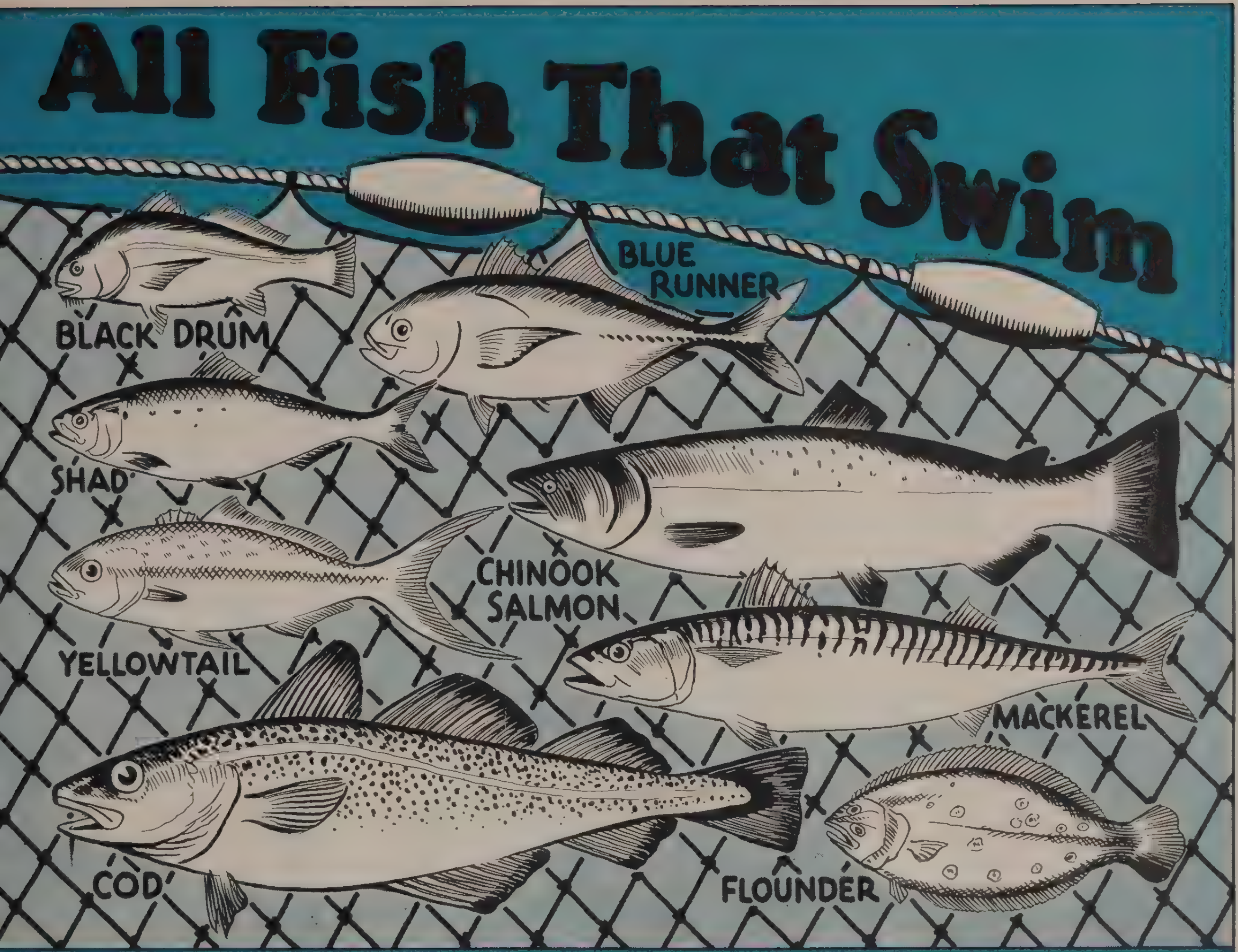
48 SOUTH STREET • NEW YORK, N. Y

FACTORY: BEVERLY, N. J.

Branch Stocks: BOSTON • PHILADELPHIA • BALTIMORE • NORFOLK • NEW ORLEANS
PITTSBURGH • CHICAGO • TULSA • HOUSTON • SAN FRANCISCO

MANUFACTURERS OF CORDAGE • ESTABLISHED 1830


Ederer Netting for
KINGFISH
HADDOCK
WHITE SEA BASS
SPOT
SOUPFIN (SHARK)
SCUP
HERRING
ALEWIFE
WEAKFISH
ROSEFISH
CROAKER
STRIPED BASS
SHRIMP
TUNA
TRADE EDERER MARK
EDERER
HOME OFFICE:



Yes, Ederer has furnished commercial fishermen with fish netting for all types of fishing for over sixty years. Their up-to-the-minute facilities have enabled them to meet the constant increased demands of their customers who know the label of Ederer means the last word in accuracy, durability and function when it comes to fish netting. Dealers in principal ports carry a full line of Ederer Royal Chinook knot traps, gill netting, purse seines, drag nets, pound nets as well as Shrimp and Trammel netting. Ederer makes netting to catch all fish that swim.

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SARDINES
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*Serves Pacific
Fish Packers*

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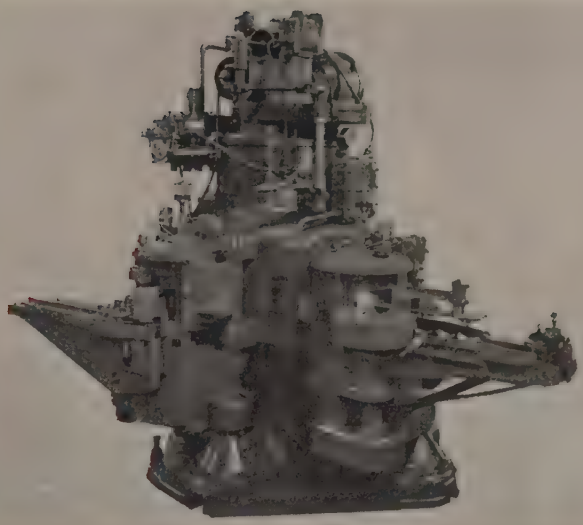
HIGH SPEED EQUIPMENT

Units that Handle up to 325 Cans Per Minute



3.

TOP NOTCH SERVICE

Quickly—by Land Sea or Air

4.

EFFICIENT FRIENDLY UNDERSTANDING ORGANIZATION

At Your Service Always

F. E. FALK
General Sales Manager
Pacific Division

P. E. FAGAN
Sales Manager
San Francisco District

R. W. FRANZ
Sales Manager
Los Angeles District

R. H. LEE
Sales Manager
Seattle District

. . . with appreciation for the consideration with which the Pacific fish packing industry has favored us, and for the fine spirit of cooperation that has been extended to members of our organization, we take this occasion to thank one and all!

CONTINENTAL
CAN COMPANY, INC.

SAN FRANCISCO • LOS ANGELES • PORTLAND • SEATTLE
Plants and Offices in Other Principal Cities

*PAULS NETTING

means

Quality of the finest

Uniform strength and even mesh

Ability to stand up

Locknot feature in salmon gill nets

Inspected thoroughly to assure quality, strength and workmanship

Trammel, and trap nets—gill nets and seines

Years of experience in the manufacture of the finest commercial fish nets

PAULS FISH NET COMPANY

MAIN OFFICE: [illegible] WEST OHIO STREET, CHICAGO, ILL.

PACIFIC COAST DISTRIBUTORS: [illegible]

[illegible]
Monterey, Calif.

[illegible]
212 Taylor Ave.
Astoria, Oregon

[illegible]
Seattle, Washington

YOU MEN who ride out the Chubascos and take adventure and peril as a part of your daily life . . . **SALUTE!**

Westgate Sea Products Company knows "you gotta catch 'em first". Our markets depend on the skill and courage of stalwart men of the sea. We toast your success in '48 . . . May it be your year of big catches and good luck!

W. Wade Ambrose
President
James B. Lane
Vice President & Sales Manager
A. L. Madruga
Port Captain

WESTGATE SEA PRODUCTS CO.
1245 W. LAUREL, SAN DIEGO 1, CALIFORNIA, MAIN 5144

Packers of **BREAST-O'-CHICKEN, BREAST-O'-TUNA, ALAMO and CORTEZ BRAND**

MEN and ROPE

S. L. Hanson, Master Mechanic in the Seattle mill and an employee of Tubbs Cordage Company since 1905 checks a spinning jenny for accurate delivery of yarn.

Another salute to our Northwest Mills in Seattle—and to the "old timers" as well as the "new timers" who keep the name Tubbs foremost in the field of fine rope.

It requires, of course, superior fibre and highly specialized machines to produce good rope. But it also requires men with "know how"—men whose skill and pride in their work are reflected in every coil of finished product.

In both the San Francisco and Seattle mills of the Tubbs Cordage Company, men of this calibre—many descendants of the original rope makers of the Tubbs mills of nearly a century ago—daily check and recheck each stage of production to assure a rope product that is worthy of the Tubbs trademark.

Specify this famous Extra Superior Manila trademark for a rope that offers extra value and service.

TUBBS
EXTRA SUPERIOR MANILA
CORDAGE COMPANY

TUBBS CORDAGE COMPANY

SAN FRANCISCO SEATTLE
LOS ANGELES • CHICAGO • PORTLAND • NEW YORK

Fifteen shrimp trawlers to his name Joe Ramos calls MONEL shafts "Best!"

Joe Ramos, newly elected President of the Patterson Rotary Club, operates out of Patterson, Louisiana. He's a fisherman who has made the grade and now has 15 boats of his own. Here's what he has to say about picking safe, dependable tailshafts:

"We use 2½" Monel shafts and find that they give us more strength than 3" shafts of other material . . . and with less weight.

"We have also found that shafts of other material bend fairly often . : . but we do not have this trouble with Monel. Monel lasts longer, too.

"We recommend Monel shafting to fishing boat owners everywhere."

"RAMOS PRIDE". . . *one of Joe Ramos' 15 shrimp trawlers.*

● There are plenty of reasons for successful fishermen like Joe Ramos to recommend Monel* tailshafts. Monel resists corrosion in any kind of water. It is tougher, harder, stiffer than common bronze. There's less bending, less whip, less wear on your bearings.

Strong? You bet! Monel is stronger than structural steel.

Monel shafts come in any diameter you need. And, they're available right now. For full information and prices, see your local boatyard.

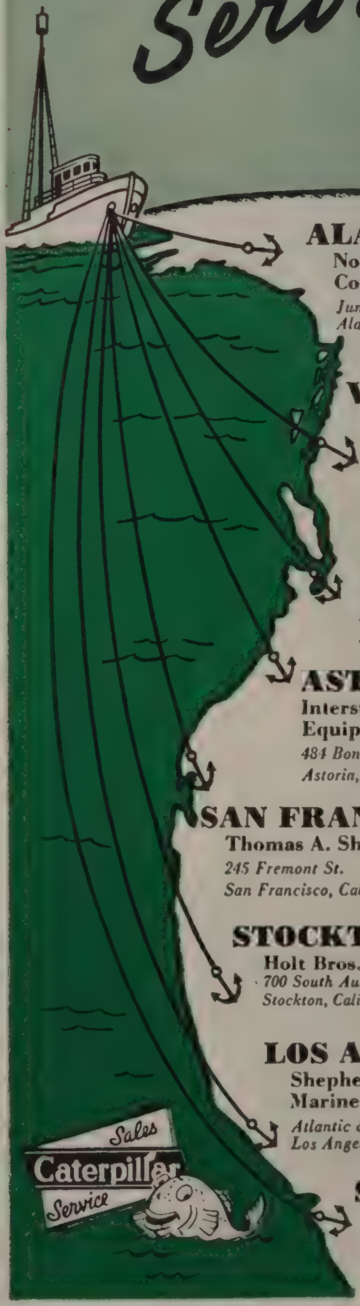
THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N.Y.

EMBLEM OF SERVICE INCO

Monel*

"...It's the SEAGOIN'* *metal"*
*Reg. U. S. Pat. Off.

You're always close to "CATERPILLAR" Service



ALASKA
Northern Commercial Co.
Juneau and Ketchikan, Alaska

VANCOUVER
Finning Tractor & Equipment Co., Ltd.
940 Station St.
Vancouver, B. C.

SEATTLE
Western Tractor & Equipment Co.
2230 First Ave. South
Seattle 4, Washington

ASTORIA
Interstate Tractor & Equipment Co.
484 Bond Street,
Astoria, Ore.

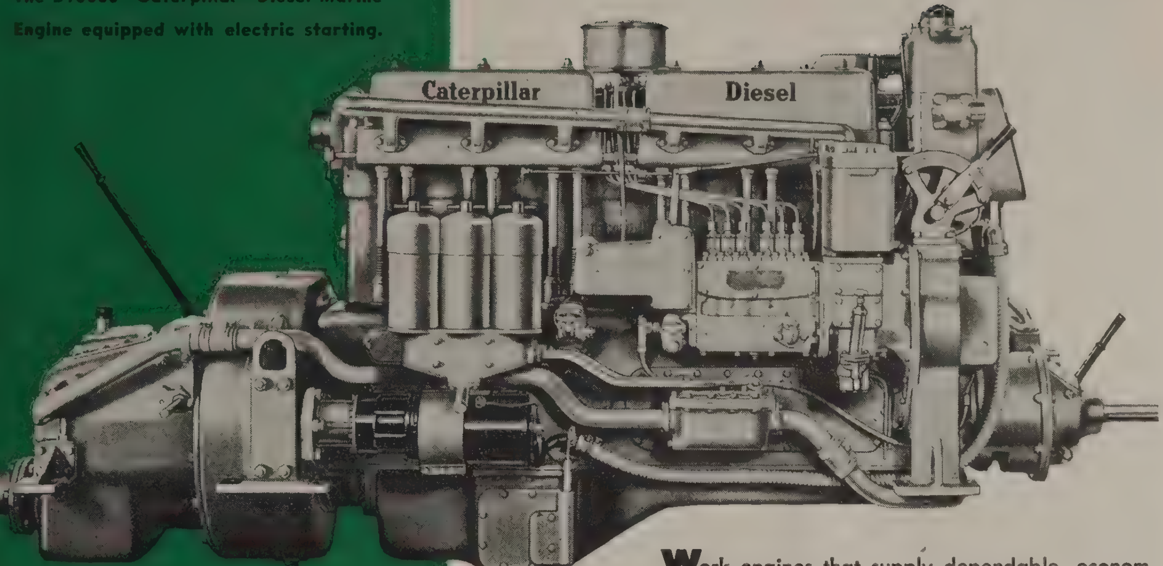
SAN FRANCISCO
Thomas A. Short Co.
245 Fremont St.
San Francisco, Calif.

STOCKTON
Holt Bros.
700 South Aurora Street,
Stockton, Calif.

LOS ANGELES
Shepherd Diesel Marine
Atlantic & Bandini Blvd.
Los Angeles 22, California

SAN DIEGO
Shepherd Diesel Marine
2031 East Belt St.
San Diego, Calif.

The D13000 "Caterpillar" Diesel Marine Engine equipped with electric starting.



MARINE POWER AS YOU LIKE IT

Work engines that supply dependable, economical power under full load operation, day after day — such are "Caterpillar" Diesel Marine Engines. Built to "Caterpillar" high-quality standards, they serve faithfully and surely under the rigorous requirements of marine work—they are easy to install and operate — they require only a minimum of care and attention. Too, they burn a wide range of low-cost fuels, yet they can idle or operate at full load without fouling or choking up. Here is work power for your work boat—in six conservatively rated sizes.

Model	Brake HP (with standard equipment)	Number of Cylinders	RPM (at sustained speed)	Weight (inc. reverse & reduction gear)
D311	38	4	1600	2475
D315	53	4	1600	2960
D8800	77	4	900	5530
D318	80	6	1600	3620
D13000	115	6	900	7450
D17000	135	8	900	9538

STANDARD MARINE ENGINE EQUIPMENT INCLUDES

Air intake silencer (marine). Heat exchanger (closed system). Lubricating oil filter (absorbent and edge types). Lubricating oil cooler (wet). Fuel oil filter. Oil pressure gauge. Water-cooled exhaust manifold. Jacket water pump (centrifugal). Raw water pump. Lubricating oil sump pump (hand). Fuel transfer pump. Starting engine (gasoline*). Temperature indicator. Tachometer drive group. Hour meter. Tools. Thermostat. Fuel pressure gauge. Crankcase fumes disposal breather. Mounting brackets.

**Electric starting also available.*

CATERPILLAR TRACTOR CO. • San Leandro, Calif.; Peoria, Ill.

Sales and Service Dealers in All Principal Ports

CATERPILLAR DIESEL

REG. U. S. PAT. OFF.

Marine Engines

ANDERSON & COLTMAN

LIMITED

Established 1888

LONDON LIVERPOOL GLASGOW

CANNED SALMON

And Other Canned Foods of Every Description

HEAD OFFICE

MARKET BUILDINGS, 29, MINCING LANE, LONDON, E.C. 3

Also at

64 STANLEY STREET, LIVERPOOL and 54 MILLER STREET, GLASGOW

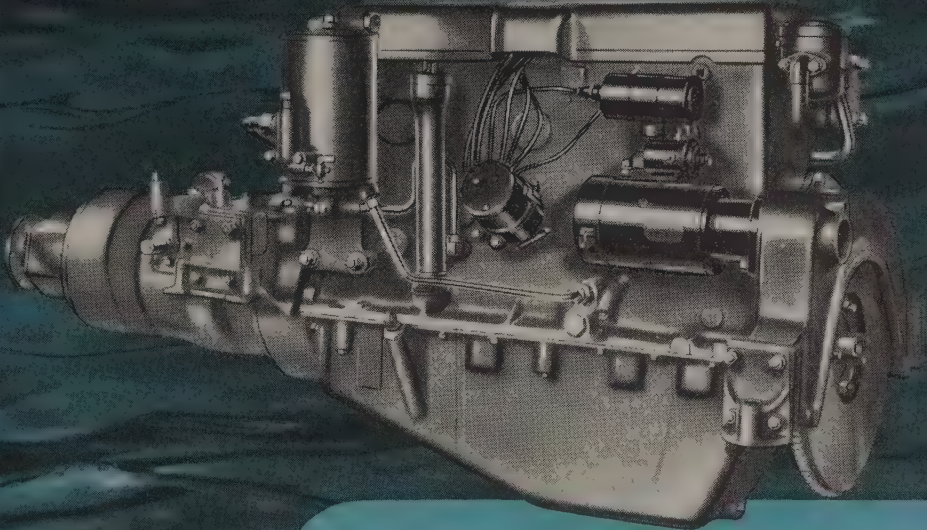
TELEGRAPHIC ADDRESS: FONTANELS, LONDON

ALL CODES USED

ANDERSON & COLTMAN

LIMITED

THE ONLY MARINE ENGINE BUILT AS A COMPLETE "POWER PACKAGE"!



Every Chrysler Marine Engine is a complete power package—engine, reverse and reduction gears all designed and built by Chrysler Corporation.

They are not converted or assembled, not rebored or rebuilt, but are specialized power plants built exclusively for marine use! That's why America's commercial fleets have made Chrysler Marine Engines their No. 1 choice for dependable power afloat. See the Chrysler Marine Dealer nearest you.

ACE • CROWN • ROYAL

92 to 141 Maximum Brake H.P.

MARINE ENGINE DIVISION—CHRYSLER CORP.
12200 E. Jefferson Ave., Detroit 31, Michigan

Chrysler

MARINE ENGINES

"BUILT TO LIVE IN THE WATER"

Setting the Pace

PROVIDING THE MARKETS OF THE WORLD WITH PRIME QUALITY FISH

By making use of modern fishing equipment and processing plants, the British Columbia Packers Limited "sets the pace" in Canada's Pacific fisheries.

Long experience in the handling of fisheries products and efficient control methods ensure peak quality that commands distribution in all markets.

CLOVER LEAF CANNED SEAFOODS

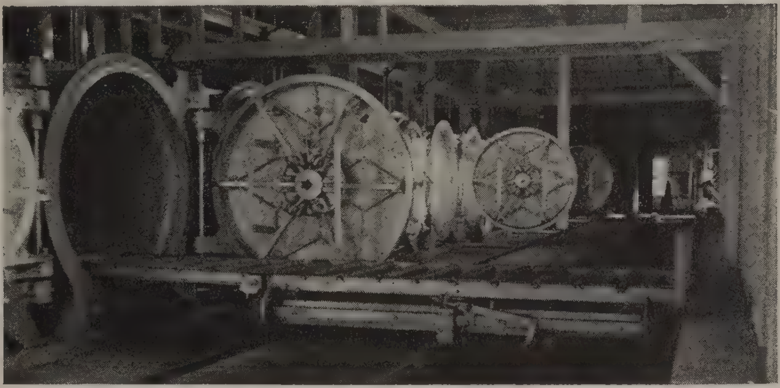
RUPERT BRAND

BRITISH COLUMBIA PACKERS LIMITED

Producers of Clover Leaf Canned Seafoods in Canada and Rupert Brand
Packaged Fillets and Frozen Fish for Canadian
and U.S. distribution.

U.S. Subsidiaries:
Rupert Fish Co., Inc., New York
Robbins Incorporated, Chicago   Forest City Fish Co., Cleveland

MATHEWS CONVEYERS



TRANSFER CARS FEEDING RETORTS

SALMON canners are finding that Mathews Roller Systems are replacing the old style retort cars in modern canneries with a great deal of success. Economy and ease of handling are only two of the advantages of Mathews Roller Systems.

•

MATHEWS Case Handling Systems offer the up-to-date salmon packer another chance to save time and effort.

We have now established a factory on the West Coast in order to more efficiently serve our many customers in the fisheries industry. Call on us, and we can show you where a Mathews Conveyer System will save you money.

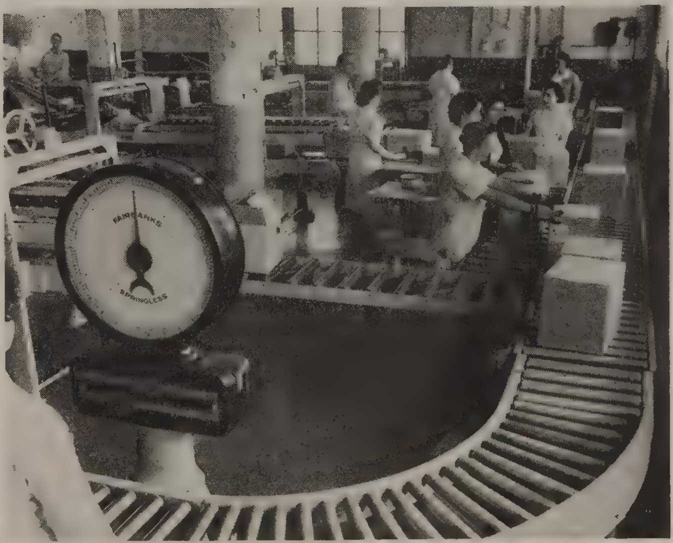


ILLUSTRATION ABOVE SHOWS MATHEWS CASE HANDLING CONVEYORS

MATHEWS CONVEYER CO.

WEST COAST

MAIN OFFICE & FACTORY: SAN CARLOS, CALIF.

BRANCH OFFICES

SEATTLE 1
2615 Western Ave.
SEneca 5718

PORTLAND
1128 S. W. Market

LOS ANGELES
132 North Western Ave.

Haines

for Shell Fish

FRESH - FROZEN - CANNED

Since 1892

LARGEST SHIPPERS ON PACIFIC COAST

PACIFIC OYSTERS	ALASKA SHRIMPMEAT
OLYMPIA OYSTERS	PUGET SOUND SCALLOPS
DEEP SEA CRABS	DUNGENESS CRABMEAT
SOUTHERN SHRIMPMEAT	KING CRABMEAT

CLAMS ★ PRAWNS ★ LOBSTERS

BRANDS:

CRABMEAT — HAINES, NEWPORT
CLAMS — HAINES, ALLITE
OYSTERS — HAINES
TUNA — HAINES, NEWPORT, G-H
OYSTERS (smoked)—HAINES
SALMON—HAINES—NEWPORT

HAINES OYSTER COMPANY

Pier 47 SEATTLE 4, WASHINGTON MAin 4055

PLANTS at: Bay Center, Poulsbo, Shelton, Allyn, Blanchard, Blyn

Subsidiary
CROWN PACKERS, INC.
HOQUIAM, WASHINGTON

VELERA

AND

DIXILAND

BRANDS

California Sardines

Quality that builds repeat sales!

SAN CARLOS CANNING CO.

SALES OFFICE: 260 CALIFORNIA ST., SAN FRANCISCO

CANNERY: MONTEREY, CALIFORNIA

CANNED Seafood Sales in CHICAGO

demand the highest type of salesmanship. Despite the shortage of Canned Fish this year, your quality and your brand must be impressed on the minds of buyers and consumers NOW!

THE FROHMAN ORGANIZATION is familiar with every phase of the marketing and sales promotion work necessary to establish a repeat volume of Canned Seafood sales in the CHICAGO market. We are prepared to consult with any non-conflicting account to plan a progressive sales program.

L. H. FROHMAN & SONS *Sales Agents*

FOR CANNERS AND PACKERS OF FOODS

437 WEST ONTARIO STREET CHICAGO 10 TELEPHONE SUPERIOR 8379

SEASIDE SUPPLY STORES, Inc.

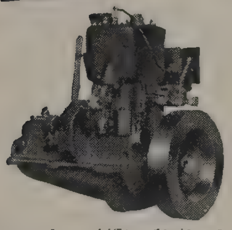
803 SO. PALOS VERDES STREET
SAN PEDRO, CALIFORNIA

ADAMS NETTING

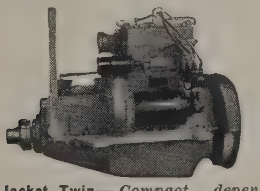
COMMERCIAL FISHING SUPPLIES

SHIP CHANDLERY

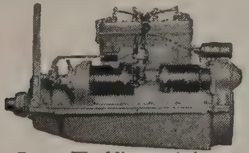
FISHING IS THEIR BUSINESS



Fisherman—*for skiffs, dories or small fishing boats. Unusual reliability, amazing economy. Model WMG with reversing gear shown.*

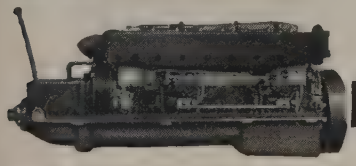


Blue Jacket Twin—*Compact, dependable power for small boats, 12 horsepower. Reversing gear model shown.*



Utility Four—*World's most famous four! Unsurpassed for dependability, smoothness, economy. 25 horsepower. Direct drive model shown.*

Cruiser Six—*a 90-horsepower favorite for boats up to 45 feet. Combines smooth power with low operating costs. Direct drive model shown.*



Sea Lion Eight—*A powerful straight eight for hard work. 141 horsepower at 3400 r.p.m. Ideal for medium and large fishing boats. Direct drive model shown.*

Universal
100% MARINE MOTORS

- You can't go wrong when you specify a new Universal for your boat. You can't for *two* reasons!

First, Universals are *fishing* motors. Their only purpose is for boat power. You'll not find a "converted" motor in the entire line — a motor assembled from block, head, etc., supplied by other *general* motor builders. It's this fact—that Universal, and Universal alone, completely designs, engineers and builds every model for service afloat—that makes the great difference. A difference that pays you well in long, trustworthy service.

The second reason you profit from a Universal is that there is a model to fit your boat *exactly*. For Universal is the only line offering 100% marine motors in every fishing boat size: singles . . . twins . . . fours . . . sixes . . . and eights.

You don't have to compromise when you buy a Universal. The dozens of different models assure the proper size for your requirements. This means *unburdened* power — years of service at maximum operating economy.

UNIVERSAL 100% MARINE DESIGN GIVES YOU

- Chrome-nickel alloy iron castings to protect against corrosion.
- Larger, full length water jackets for more efficient cooling.
- Built-in, not attached, reversing and reduction gears.
- Gear driven timing, water pump, generator, etc.
- Water jacket clean-out plates.
- One-piece no-leak oil pan.
- Full pressure lubrication system.
- Marine type cylinder heads for more efficient combustion.
- Lower original and operating costs.
- Replacement parts service for all models up to 21 years old.
- Plus many more important advantages.

WHICH UNIVERSAL MEETS YOUR FISHING REQUIREMENTS?

(Basic models only are given — there are many others with or without reduction gears, magneto or electric starting, etc.)

Model:	Cylinders	H.P.	Cu. Inch Displ.	R.P.M.	Overall Length (without reduction Gears)
WM	1	8	67.6	1200	17 9/16″
AFT	2	12	49.5	2200	27 9/16″
BN	4	25.3	95	2500	34 13/16″
FA	4	40	99	3500	34 13/16″
LSG	4	50	149.3	3000	39 5/8″
AMS	6	60	148.5	3500	43 7/8″
HCS	6	90	260	3000	49 15/16″
LHS	6	110	260	3400	49 15/16″
GCE	8	125	347	3000	62 5/8″
LCE	8	141	347	3400	62 5/8″

Plus Fuel-Oil Models.

SEE YOUR UNIVERSAL DEALER OR WRITE FOR LITERATURE . . .

Universal Motor Co.

MARINE MOTOR BUILDERS
Since 1898

423 UNIVERSAL DRIVE, OSHKOSH, WISCONSIN

THE WORLD'S LARGEST BUILDER OF 100% MARINE MOTORS

Canadian Fairbanks-Morse Co., Ltd., Victoria; Canadian Fairbanks-Morse Co., Ltd., Vancouver; Pacific Marine Supply Company, Seattle; Steckmest & Company, Inc., Portland; Thomas A. Short Company, San Francisco; Shepherd Diesel Marine, Los Angeles; Nuttall-Styris Company, San Diego.

SABLE • SALMON • RED FISH • LING COD • CRAB MEAT • SOLE • HALIBUT •

The "Hallmark" Brand is an emblem of consistent high quality in the packaged sea foods field—and your guarantee of the best in Pacific sea foods and shellfish.

Hallmark frozen fillets are packed, cellophane wrapped, in one, five and ten pound cartons; Hallmark fresh fillets in twenty pound cartons. Hallmark's dressed and frozen fish are of the same high standard of quality.

By
Hallmark FISHÉRIES
EUREKA ~ CALIFORNIA

STRENGTH!
STAMINA!
DURABILITY!
A
QUALITY NETTING

Many years Adams Net & Twine Company have been champions of perfection in the manufacture of quality fish netting. Intricate machinery of our own design necessary for mass production—operated by expert craftsmen with years of experience and knowledge in the making of simple or complex designed fish nets. When you buy Adams nets you enjoy the full benefits of their highly specialized skill and obtain nets that will give good service because they are made for Strength—Stamina—and Durability.

ADAMS NET & TWINE CO.

701-3 NORTH SECOND STREET • ST. LOUIS MO.

LIST OF PACIFIC COAST DEALERS

[illegible] Supply Stores, Inc.
[illegible] So. Palos Verdes
San Pedro, California

San Diego Marine Hdw. Co.
1582 India St.
San Diego, California

[illegible]
[illegible]
San Francisco (11), Calif.

[illegible] & Sons
Municipal Wharf
Monterey, California

England Marine Supply Co.
Branch Store
Newport, Oregon

England Marine Supply Co.
Foot of 15th Street
Astoria, Oregon

HARLINGEN
PORTLAND
SACRAMENTO
OAKLAND
SEATTLE
LOS ANGELES
BALTIMORE
BOSTON
CHICAGO
CLEVELAND
MACON
NEW YORK
ST. LOUIS

QUALITY INSURANCE

Stecher-Traung's two big plants—having a combined floor space of 371,000 square feet—are modern, complete, self-contained and equipped with the largest battery of giant 4-color offset presses in the country. Every facility for the production of high quality lithography is provided. We grind chemically tested, fade-proof dry colors to produce our own inks and apply our own special coatings to paper stock to assure uniformity and best possible reproduction. Skilled artists, photographers and craftsmen give expert and detailed attention to every job. Your label will have quality insurance!

STECHER-TRAUNG
LITHOGRAPH CORPORATION
SAN FRANCISCO, CALIFORNIA ROCHESTER, NEW YORK

CHICAGO

No Food Processor should overlook the sales and merchandising possibilities of—the Great Central Market, i. e. Chicago and the immediate surrounding trading area.

The Salmon Canner—the Tuna Canner—the Canner of other fish products should be particularly interested in the development of his business in this area.

As Resident Sales agents, Paul Paver & Associates know this market. Its trained sales force regularly contact all jobbing food and grocery outlets. Paul Paver & Associates stand ready to serve non-conflicting Accounts in the development of worthwhile distribution.

NATIONAL FOOD BROKERS ASSOCIATION

PAUL PAVER & ASSOCIATES

500 N. Dearborn Street
CHICAGO 10, ILL.

VITA BRAND

Importers, Producers, Packers *and* Smokers *of All Kinds of* FRESH *and* SALT WATER

FISH

- CAVIAR
- SALMON
- CHUBS
- BLUEFINS
- BUTTERFISH
- MILD CURED SALMON
- SALT HERRING
- PICKLED HERRING
- ANCHOVY PASTE
- HERRING FILETS
- SARDINES
- ANCHOVIES
- RIVER STURGEON
- LAKE STURGEON
- TROUT
- CISCOES
- SPOONBILL STURGEON
- DRESSED BUFFALO CARP

VITA FOOD PRODUCTS, Inc.

Main Office
644-654 GREENWICH STREET NEW YORK, N. Y.

Producers: Cape Cod, Mass. and Seattle, Wash.
Plants: New York, Brooklyn, Philadelphia, Chicago, Chestertown, Md., Alaska

SEATTLE SHIP SUPPLY COMPANY

SEATTLE SHIP SUPPLY CO.
SEATTLE SHIP SUPPLY CO.

"Everything for the Fisherman"

- Great Western Cordage
- Dutch Boy Marine Paints
- U. S. Rubber Co. Boots and Clothing
- Goodrich Rubber Boots
- Geo. A. Johnson Oiled Clothing
- Black Bear Clothing
- Woolrich Woolen Clothing
- Seine Twine and Cotton Rope
- Trolling Supplies
- Halibut Gear
- Trawling Equipment
- Rubber and Glass Floats
- Marine Hardware
- Galley Supplies
- Hi Grade Groceries

"Conveniently Located on Fisherman Dock"

3851 16th West SEATTLE 99, WASHINGTON

NELSON BROS. FISHERIES, LTD.

Quality Packers and Producers

CANNED SALMON
CANNED PILCHARDS
CANNED HERRING

– **BRANDS** –

KING EDWARD	PARAMOUNT	RAMPART
PORTAGE	UNIVERSAL	SWAN
	ROSE MARIE	

FISH MEAL FISH OIL

325 HOWE STREET VANCOUVER, BRITISH COLUMBIA

MARTINOLICH

SHIPBUILDING COMPANY

Complete Repair, Modernization and Conversion Service on Fishing Vessels of All Types and Sizes

Our new 1000-ton double marine railway (see upper left in air photo of yard and docks)—capable of hauling out the greatest dead weight fishing vessels in the Southern California fleet.

We specialize in conversions and modernization of all types of fishing boats. One of our big jobs in 1947 was the conversion and all-brine refrigeration on the great tuna mothership "Reina Del Mar."

MARTINOLICH SHIPBUILDING CO.

SAN DIEGO, Foot of 26th St.

ANTHONY C. MARTINOLICH
President and Gen. Mgr.

NEW ENGLAND
FISH CO.

SEATTLE, WASH.

AND AFFILIATES

The CANADIAN FISHING CO., Ltd.
VANCOUVER, B. C.

NEW ENGLAND FISH COMPANY
OF OREGON

ATLIN FISHERIES, Ltd.
PRINCE RUPERT, B. C.

The DOTY FISH CO.
KALAMA, WASH.

NEFCO
Fishery
PRODUCTS

From the Gulf of Alaska to California

Tops in Quality

SINCE 1868

CANNED SALMON, CRAB, CLAMS and TUNA
FRESH, FROZEN and MILD CURED FISH
OF ALL POPULAR VARIETIES

FAMOUS BRANDS INCLUDE: BELLEANNA, GOLD LEAF, GOLD TOP, PILLAR ROCK, PINK BEAUTY, SEAFISHER, SEAL OF QUALITY, SILVER SPRAY, SUPERB, VALUE

NEFCO
Fishery
PRODUCTS

"Packed with the Wiggle in its Tail"

Capt. MACHADO MEDINA invites you to San Diego's most mode completely equipped SHIP BUILDING AND REPAIR YAR

Capt. Machado Medina, N.I.W. Port Captain

The 106-foot all-steel "Lucky Star", recently completed by N.I.W. for Capt. Manuel H. Freitas and Sons, has a 173-ton capacity, 10,500 mile cruising range.

N.I.W.'S MODERN PLANT INCLUDES:

- 5 modern marine railways capable of hauling out craft up to 1,000 tons.
- 50 years of "know how" in steel working.
- 18 acres of PAVED yard.
- Proven system of "production line" steel fabrication of sub-assemblies, resulting in important savings to you.
- Completely equipped machine shop.
- Full size layout shop.
- San Diego's largest shipyard carpenter shop.
- 6 outfitting docks.

ADVANTAGES OF WELDED STEEL CONSTRUCTION

- Lower initial cost, per ton of pay load.
- Lower operating cost.
- Longer cruising range.
- Faster speed.
- Longer life.
- Fewer days "on the beach".
- Less fuel consumption.
- Lower insurance costs.
- Easier cleaning.
- Freedom from marine borers.
- No wet rot or dry rot.
- Less fire hazard.
- Maintains original bouyancy.

HOME OF THE GROWING FLEET OF "NATIONAL CLIPPERS"

NTW

NATIONAL IRON WORKS

NTW

SAN DIEGO 12, CALIFORNIA

OXNARD

Tops in Highest Quality

SEA FOODS

MOST modernly equipped Sardine, Mackerel and Squid Canning Plant in the West. . . .
Producers of FISH MEAL *and* FISH OIL

Canned Fish Brands:

ARCH ROCK OXNARD NAVAL
SOUTHERN GEM 3 FACE ROCK

President: S. A. Ferrante
Sales Manager: L. E. Collins

OXNARD CANNERS, Inc.

380 WAVE STREET
MONTEREY, CALIFORNIA

What Do You Want in Your
FISHING BOAT?

- **DEPENDABILITY?**
- **FINE CRAFTSMANSHIP?**
- **STRENGTH?**
- **SEAWORTHINESS?**
- **SPEED?**

You get all these qualities in an Anderson & Cristofani-built fishing boat.

Whether you want a new boat, your old boat repaired or overhauled, we have the skilled men to produce a job of which you'll be proud!

ANDERSON & CRISTOFANI •

Innes Ave. and
Griffith St.
SAN FRANCISCO 24

A FAMOUS WATER FRONT BUILT ON CREOSOTED PILING

Practically all of Seattle's salt water piers have been supported by pressure creosoted Douglas Fir Piling since 1884—when such material was made available From our first plant.

WEST COAST WOOD PRESERVING CO.

OFFICE
1118 FOURTH AVENUE
SEATTLE 1, WASHINGTON

PLANTS
WEST SEATTLE
EAGLE HARBOR

ICY POINT
REG. U.S. PAT. OFF.
BRAND
SALMON

Packed Exclusively by

ALASKA PACIFIC SALMON COMPANY

CANNERY:
SAND POINT (Shumagin Islands), ALASKA

and

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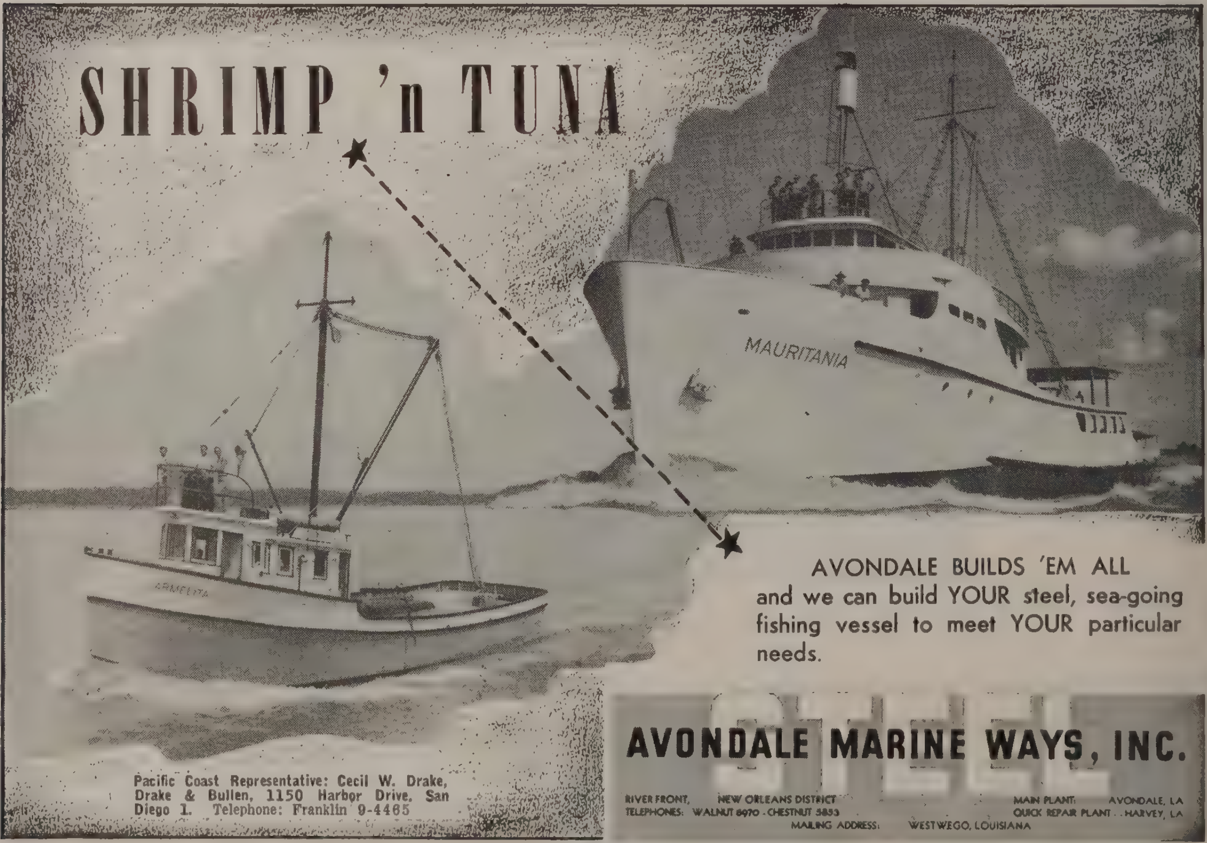

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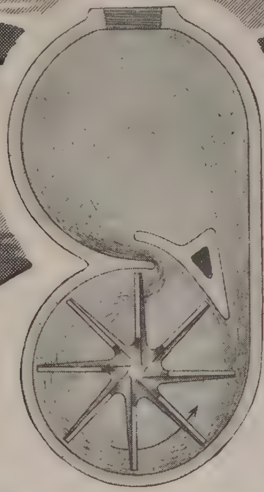


Here is an "inside view" of a LaBour FI Centrifugal Pump in the act of priming itself. All working parts are shown — there are no valves, floats, or attachments of any kind. This simplicity, and the generous clearances inside the pump, mean dependable, trouble-free service for long years of pump life.

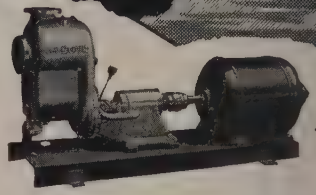
You can't get a *simpler* pump for your boat than the LaBour Type FI Self-Priming Centrifugal. These pumps use no floats, valves or gadgets to prime themselves. Foot-valves in hard-to-reach spots are not needed.

A LaBour has a single moving part, the impeller, operating with generous clearances. Even sandy water will not destroy its efficiency. This means, too, that a LaBour will stay on the job even under service conditions that put ordinary pumps out of commission fast.

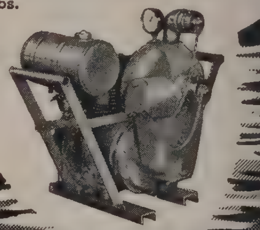
Various sizes of LaBour FI pumps are available for use on any type of boat. In bilge or ballast service, for deck and dock washing, in fire service aboard or ashore, or wherever else you can use a forceful, continuous water stream.

Write today for prices and delivery dates on the type of LaBour FI you'd like for your boat. We will be glad to help you choose the best size for your needs.

THE LaBOUR COMPANY, Inc.
1617 Sterling Ave. Elkhart, Indiana, U. S. A.



The DFI is intended for permanent installation with either belt or direct drive. Genuinely self-priming and requires little maintenance.



The SFI, with a self-contained gasoline engine, takes up very little room. This is the No. 10, weighing 178 lbs. and pumping 50 GPM at 60 lbs.

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NEW CONSTRUCTION **Specialists** BOAT REPAIR

There's always a large concentration of fish boats and other commercial craft at the Seattle Shipbuilding & Drydock Corp. yard.

Starting in 1932 with the Department of Interior's "North Star," the 227-foot wooden motorship used by Admiral Richard E. Byrd on an Antarctic expedition, and down to a 24-foot power tender built for the same vessel in 1946, numerous intermediate size vessels for commercial and government service have been constructed or repaired in this yard. These include 136-foot YMS mine sweepers, 154-foot cable laying ships, 128-foot tuna clipper type cargo vessels, purse seiners and other commercial vessels.

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EXPERIENCE IS A BIG FACTOR, when selecting your Halibut and Trolling Gear, your cannery supplies,and your Ship Supplies. Those of you who have dealt with us before know us to pride ourselves on offering the advice of personnel who are experienced, qualified, capable and courteous.

Our complete line of gear and other supplies is available for your inspection at any time. Our present customers know that we present friendly service, and we have gained a reputation of which we are proud.

FOR YOUR 1948 SUPPLIES, think of us for the following items and many others of equally high quality:

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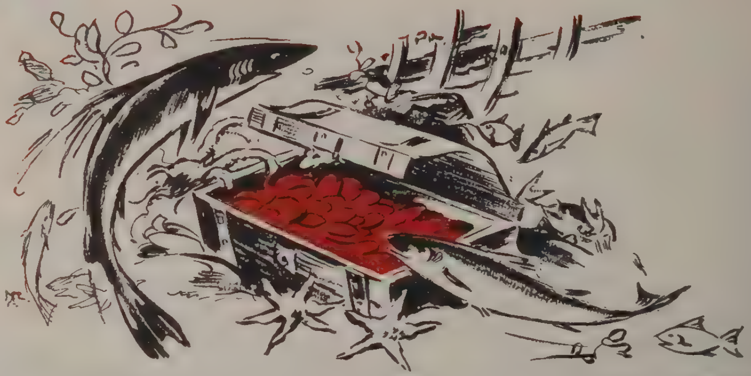

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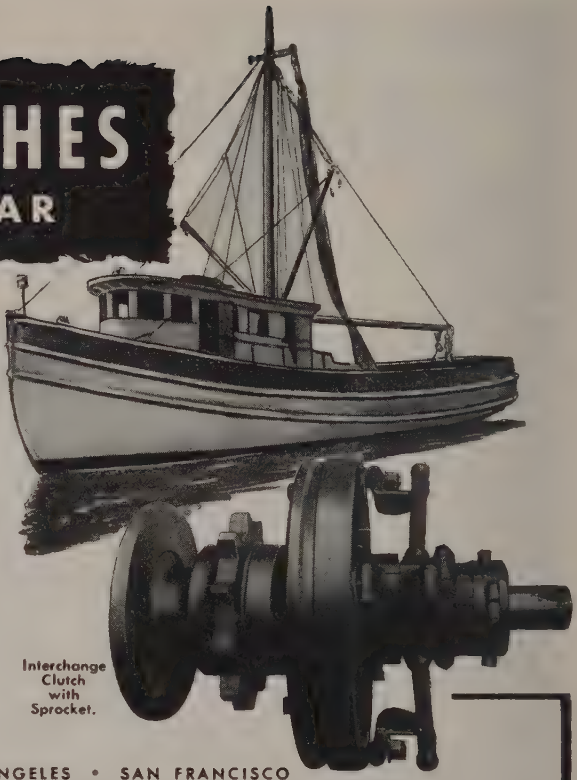

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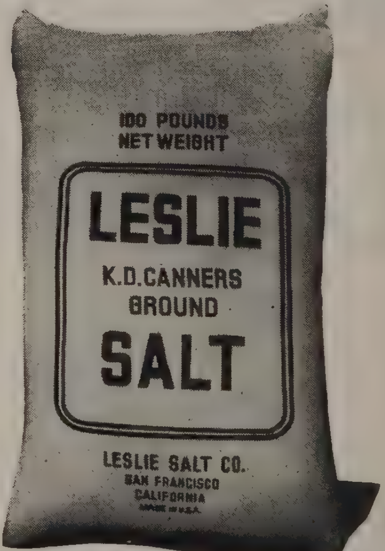

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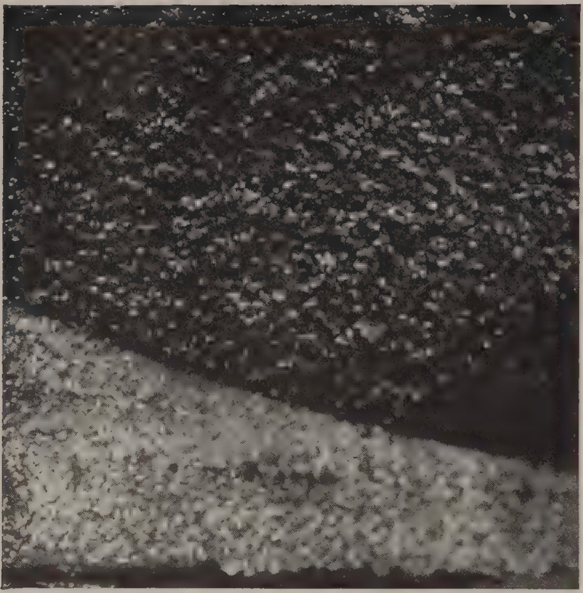

it's not the cost of barnacles —

IT'S THEIR UPKEEP

The boatman cannot afford to support a load of barnacles nor a lawn of sea grass on the bottom of his boat. Even an ordinary collection of barnacles and grass can very well reduce speed as much as 15% and increase fuel consumption to a greater degree. This is why INTERNATIONAL Bottom Paints are of such importance. They wear better, last longer, protect the wood or metal they cover and *really keep the bottom clean.* Send for color cards of INTERNATIONAL Bottom Paints and other INTERNATIONAL Paints and specialties, the use of which results in better and lower cost maintenance of every type of vessel.

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All industrial lubricating oils and greases marketed by Tide Water Associated *everywhere* now bear unified brand names.

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The famous name of Cycol becomes *Tycol.* Designations of each of the 170 different industrial oils and greases have been unified under the Tycol banner.

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For a comprehensive folder which lists in detail the new and former brand names, phone your Associated Representative, or fill in and mail the coupon below.

Remember, for *any* industrial oil or grease for *any purpose*—the name to remember is TYCOL.

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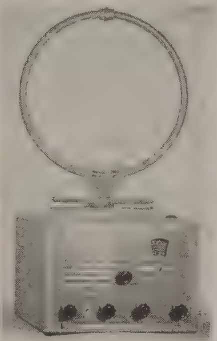
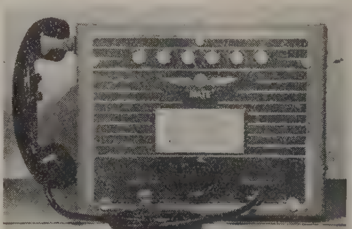
Precision-built marine radio equipment that gives you all the safety and convenience of a modern liner. And no matter how large or small your boat—there's a Fisher set or combination exactly designed for your particular need.



NEW LOW PRICES

Perfect Combination for fishing boats.



- FISHER model 47A RADIO PILOT DIRECTION FINDER. New! Just out! Sharp, accurate bearings with minimum of controls, balanced shielded loop antenna, electronic bearing indicator. 6, 12, 32 and 110-V. DC or 110-V. AC. Beacon, broadcast and marine bands $275

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Many other models. Federal excise or state tax where applicable not included. Prices subject to change without notice.

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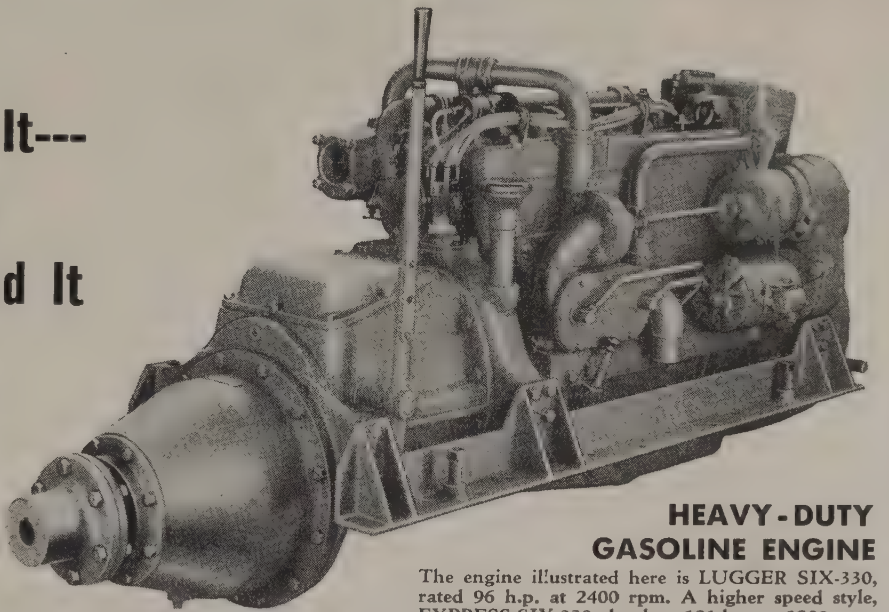

HEAVY-DUTY GASOLINE ENGINE

The engine illustrated here is LUGGER SIX-330, rated 96 h.p. at 2400 rpm. A higher speed style, EXPRESS SIX-330, develops 121 h.p. at 3200 rpm. It is shown equipped for fresh water cooling with conventional sea water pump replaced by a centrifugal circulating pump which requires no lubrication or priming. Greater volume of flow and greater velocity in the system accomplish heat transfer in a short compact unit. Take your choice of inboard or outboard heat exchanger.

It isn't necessary to tell commercial fishermen about the advantages of fresh water cooling because they are well acquainted with it. For many years they have rigged piping along the keels of boats, to gain longer and better service from engines.

Gray's closed system, a modification of the one designed for the Navy engines, incorporates an automatic temperature control system, which brings the engine quickly up to correct operating temperature and holds it there.

Other 1948 equipment of interest to workboat operators:

- Sealed Unit Instrument Panel with Register of engine operating hours. Weather Proof.
- Twin Disc Power Take-off
- Reduction Gear Ratios to 5:1
- Oversize Reverse Gears
- 20-Ampere Constant-voltage Generator
- Extra Generator 6 v. or 12 v.
- Radio Shielding

"KEEL KOOLER," new outboard heat exchanger, is supplied in units of 24 to 54 inches length, depending on size of engine. Install it on the hull, with fairing blocks at ends, or recess flush with hull. Barnacles do not like to set up housekeeping on it because it makes their feet hot.

GRAY MARINE MOTOR COMPANY

700 CANTON AVENUE
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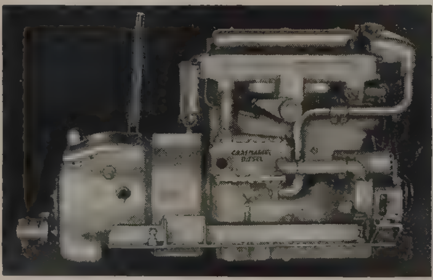
GRAY MARINE MOTORS GASOLINE DIESEL

Free Catalog

Write us, and without obligation to you we will send this new 52-page illustrated catalog. Be sure to tell us about your boat.

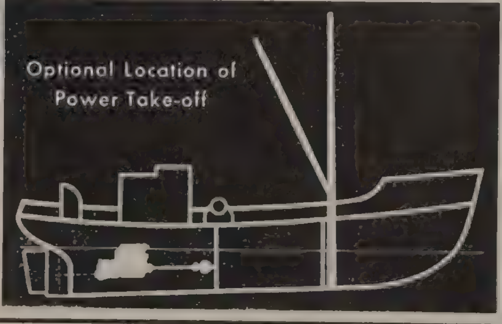


DIESELS

The new Graymarine Diesels, based upon the design developed by Continental Motors Corporation, are now available in 35, 55 and 150 h.p. sizes. These are built in two separate styles for operation at 1200 rpm. and 1800 rpm., respectively. Engine illustrated has inboard type heat exchanger for fresh water cooling. Note welded steel mounting rails, with alignment jacks.

Power Take-Off

Twin Disc unit, driven through flexible coupling may be located any distance from engine. This is useful in workboats where deck machinery is located near bow of vessel, eliminating necessity for jack shafts and transfer drives.



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106'x 25'x 13'

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COMPACTNESS
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POWER

A Martinac-Built Boat Is Your Guarantee of Complete Satisfaction!

Compactness which for many years has characterized the profile of Martinac-built fish boats commands immediate attention to the new 106-foot tuna clipper "South Pacific," built by this yard in 1947 for Capt. Lou Brito, the High Seas Tuna Packing Co. and Martinac interests.

The 190-ton capacity "South Pacific" is featured by an unusually low profile, which serves to keep weight down and stability high—always a factor of major importance in a tuna vessel.

On the tuna banks, the "South Pacific" has proved herself exceptionally easy to handle and to maneuver—another prime consideration in a tuna clipper.

Power in plenty is assured by her 525-hp. Enterprise Diesel engine. Auxiliaries are three, a pair of 60 kw diesel-generating sets and a 40 kw diesel standby. All-brine refrigeration is supplied by three 5 x 5 Kohlenberger compressors. Navigational aids include a Fathometer, a Photo-Electric Pilot and a 350-watt Hallicrafters radio telephone.

For years proud fishermen have lauded the fish catching exploits of their Martinac-built fish boats. Our boat building facilities are second to none, and we welcome the privilege of serving our many friends and customers.

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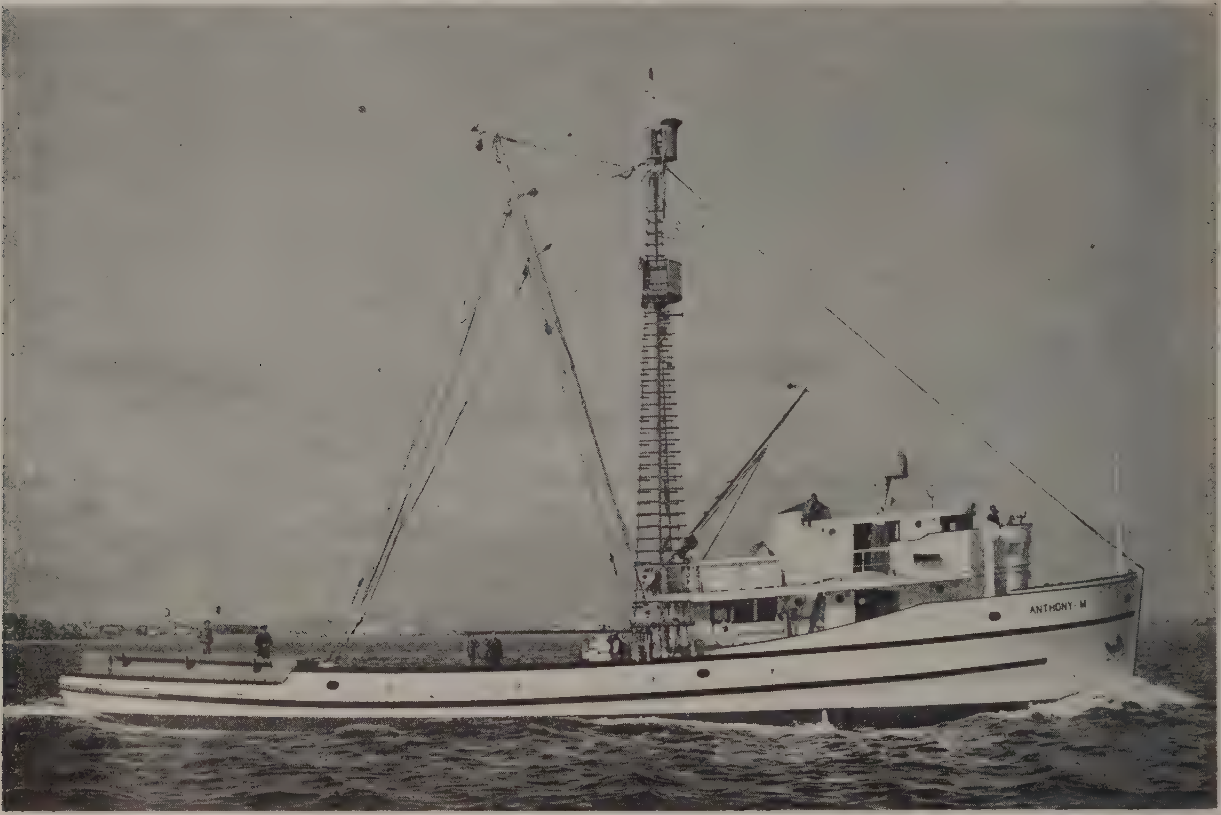
"ANTHONY M"—
OUTSTANDING NEW TUNA SEINER



POWERED BY WASHINGTON

The 117-foot "Anthony M", largest vessel ever built on the Pacific Coast expressly for long-range tuna seining operations, is powered by a Model 6-R-20 Washington Diesel. Supplying the auxiliary power are a pair of 80-kw Washingon diesel-generating sets.

Commissioned in January by the Harbor Boat Building Co., Terminal Island, California, the "Anthony M" is owned by Capt. Anton Misetich, Frank Mosich, John Morris, and the receiving cannery, the French Sardine Co.

To assure her success, practically every known navigational and operational aid has been installed in this big all-brine refrigerated purse seiner—radar, automatic steering, radio telephone and wireless equipment. Bon Voyage—"Anthony M".

WASHINGTON
IRON WORKS

Diesel Engines
From 90 to 1500 H. P.

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*Distributors of
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Give You "Built-In Dependability"

**WASHINGTON
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1882

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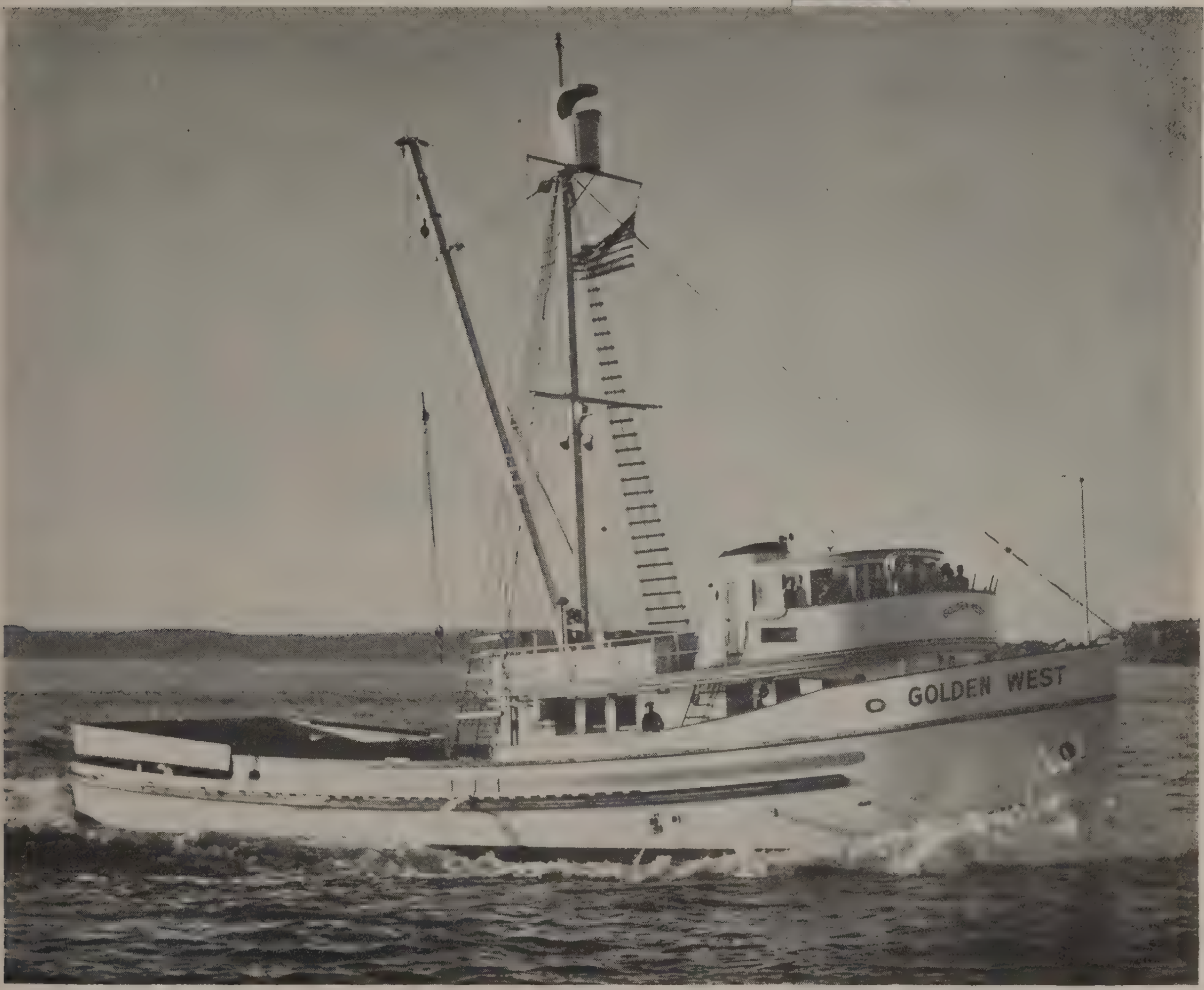
Tops in the Tuna and Sardine Seiner Fleets!



"GOLDEN WEST"

Few vessels have attracted so much attention among the fishing fraternity as this distinctive Peterson-built fish boat. Numerous innovations calculated to make fishing easier and more efficient, have given the "Golden West" top ranking in the tuna and sardine seine boat fleets.

The 98-foot "Golden West," owned by George and John Stanovich, Louis R. LaMont and Associates, was designed primarily for tuna seining, but is also capable of engaging efficiently in sardine seining. She is powered by a 600 H. P. Enterprise Diesel.

PETERSON BOATBUILDING COMPANY

223 East F Street ★ ★ ★ Tacoma, Washington

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"THE HEART OF THE FISHING FLEET"

With ever rising tides of competition, fishermen can afford only the best. LATHROP Diesel and Gasoline Marine Engines have been preferred by fishermen for over a half century because they are long-lived . . . simplify overhauling . . . afford easy replacement of parts. Economy, dependability and ruggedness are read in every heart throb of a LATHROP. More than ever you need a LATHROP ordered to your particular requirements.

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SOURCE OF
POWER

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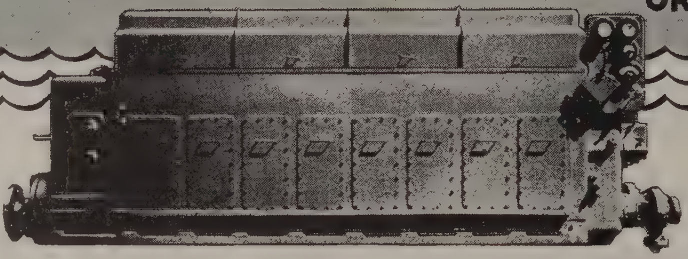

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Engines
150-1440 H.P.

Marine Auxiliary
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Generator Sets
100-1000 K W

In thousands of marine and stationary installations, Buckeye Diesels are doing mighty good jobs--the kind of jobs their owners take pride in telling you about --the kind of job you want YOUR next Diesel engine to do for YOU.

The Buckeye catalog explains, in easily understandable detail, how a Buckeye Diesel combines precision construction with economical power and dependable operation.

Your copy will be sent on request.

THE BUCKEYE MACHINE CO. - LIMA, OHIO

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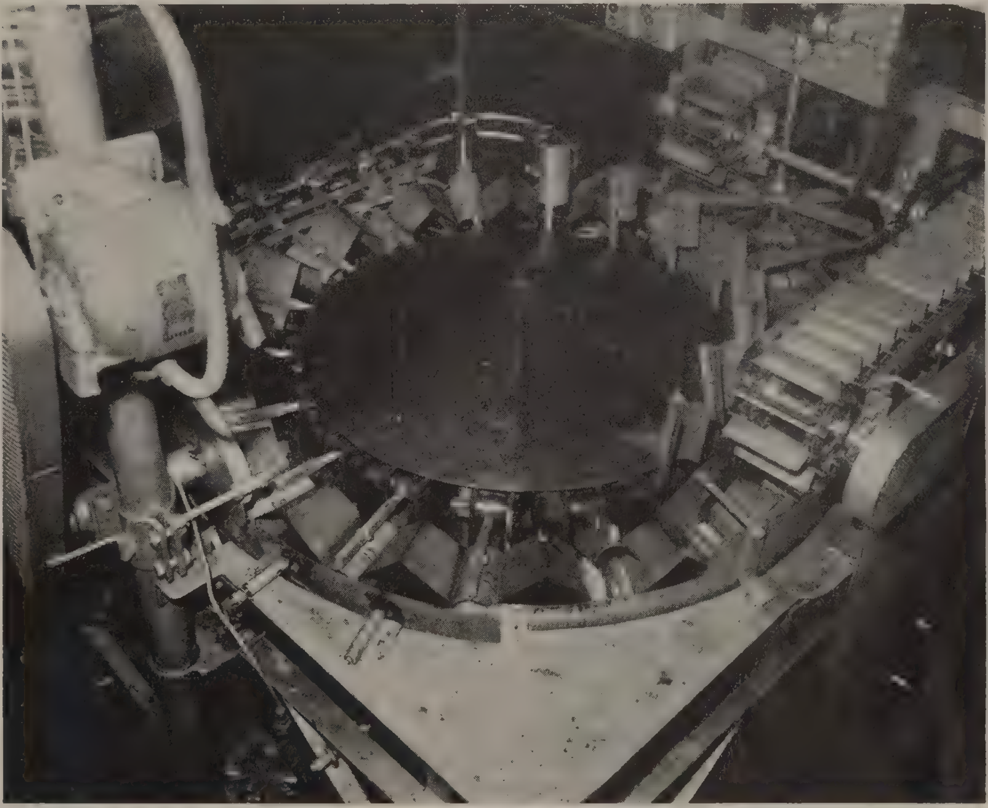

The NEPTUNE Automatic Sardine Filling Machine, as seen above from the intake end. Note the two conveyors from the vacuum dressing machine, and how the spider turns half the fish end-for-end. The cans are next filled by a piston, righted and ejected onto the revolving plate. Speed is 60 cans per minute.

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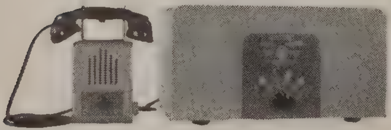

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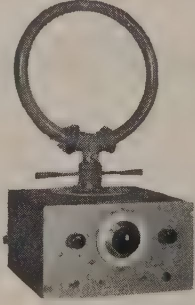

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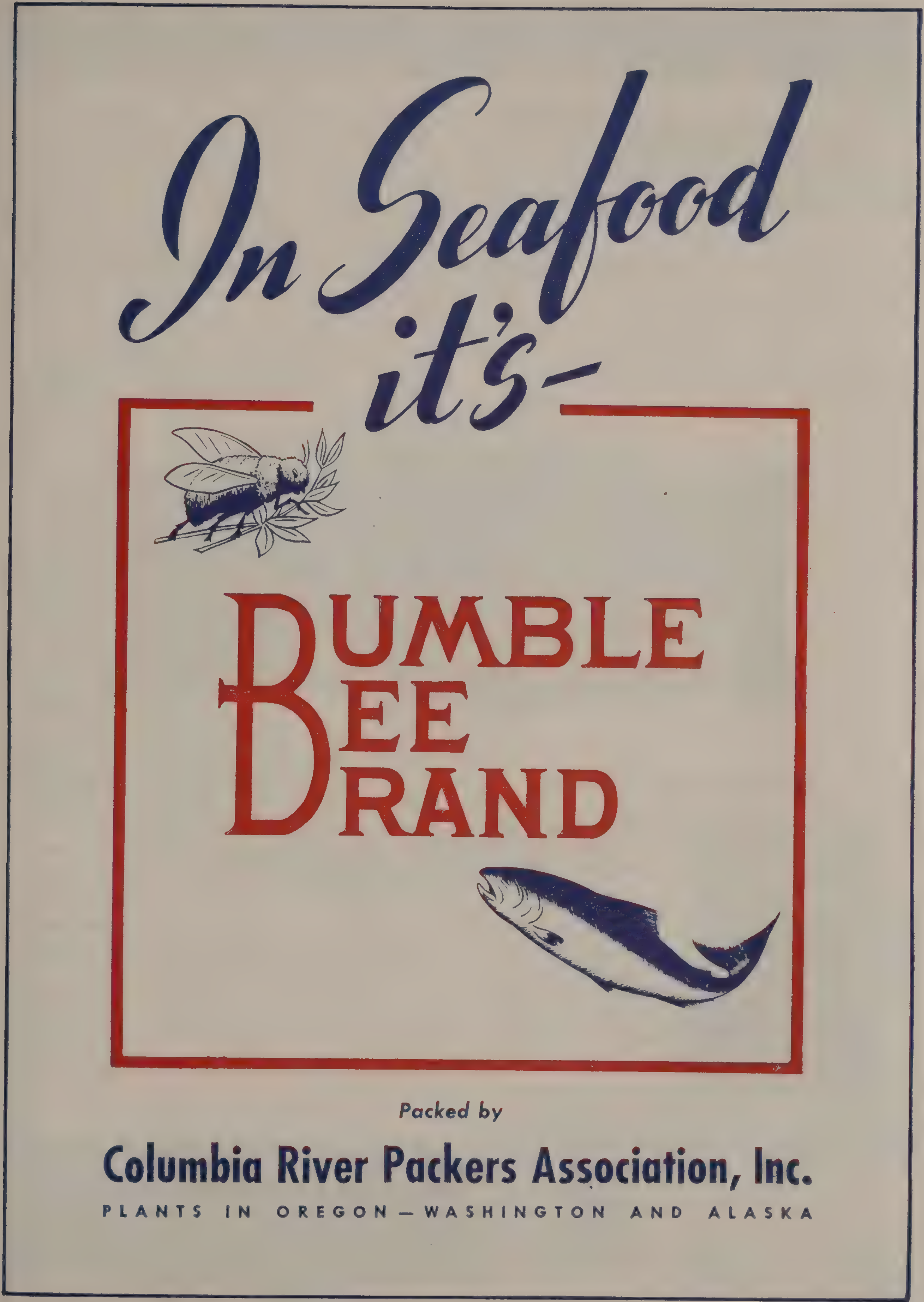

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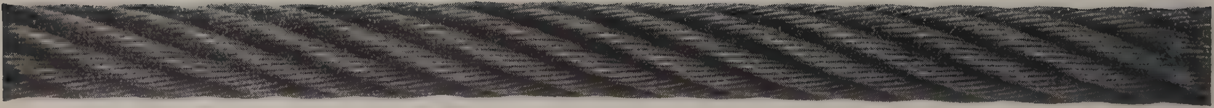

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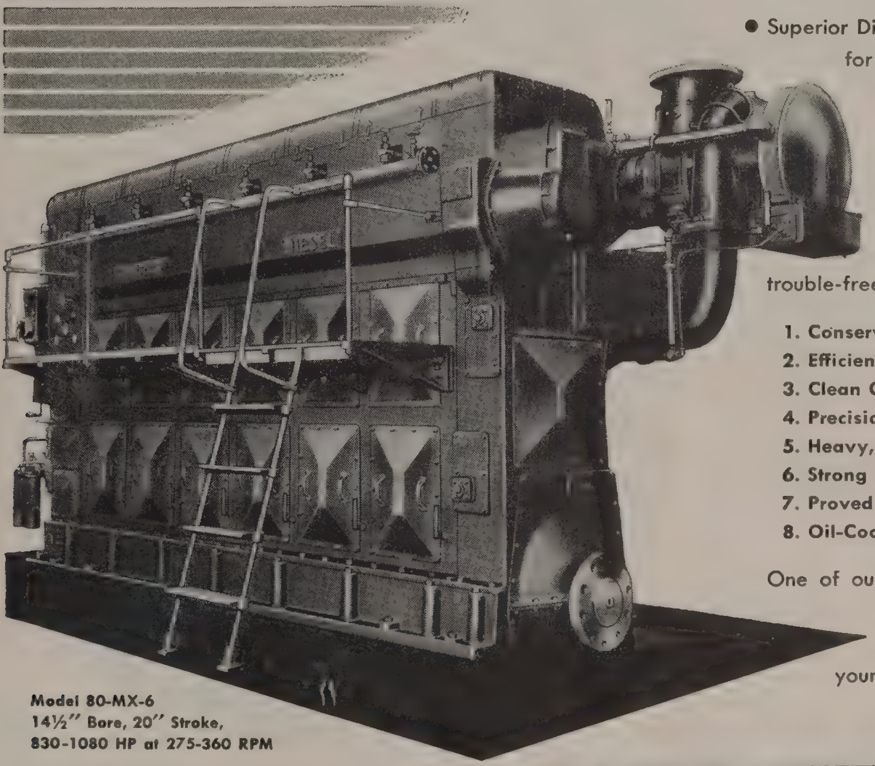

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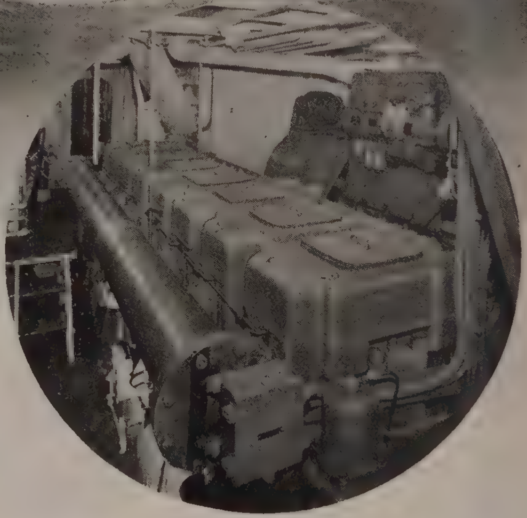

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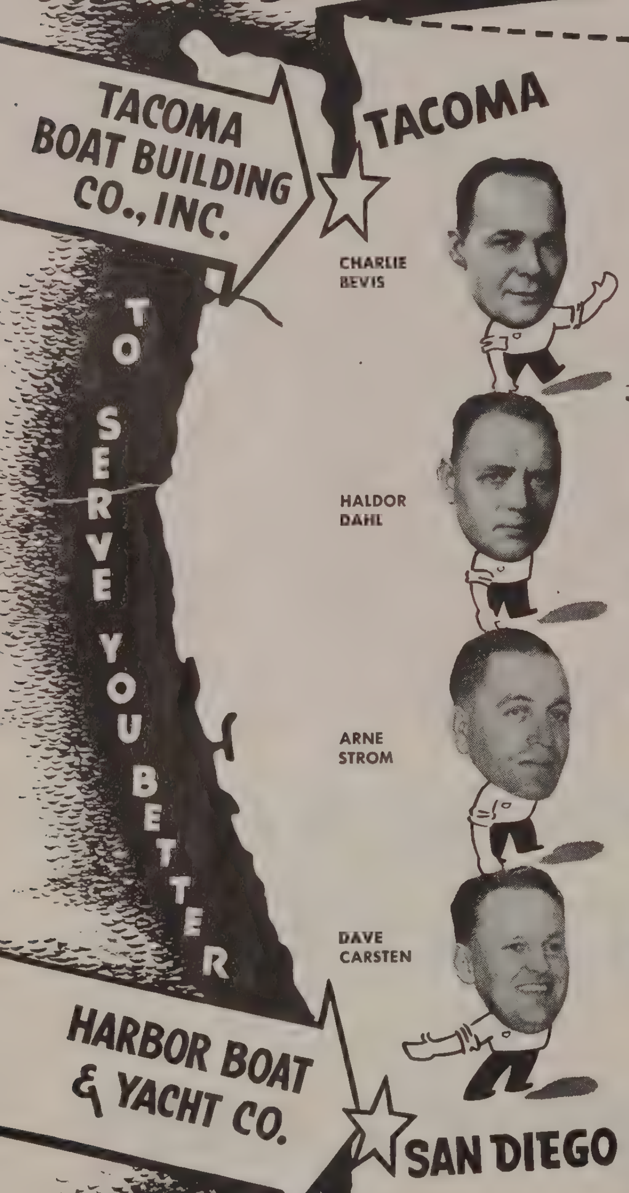

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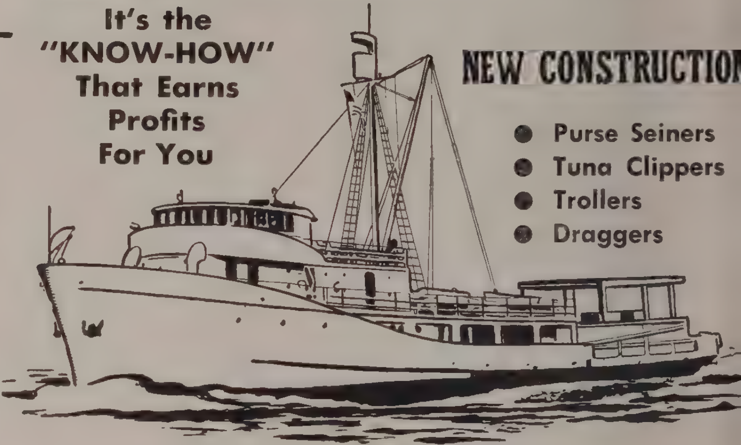

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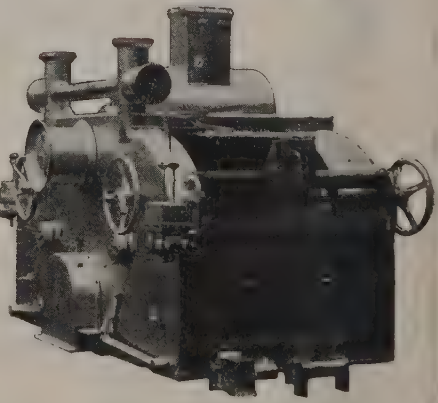

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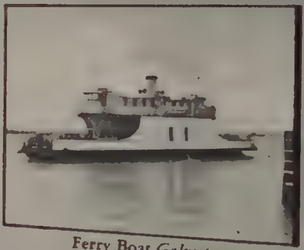
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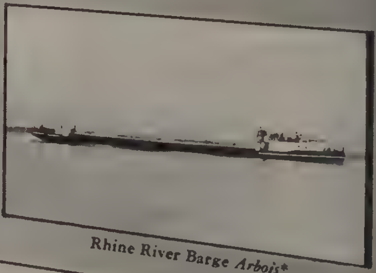
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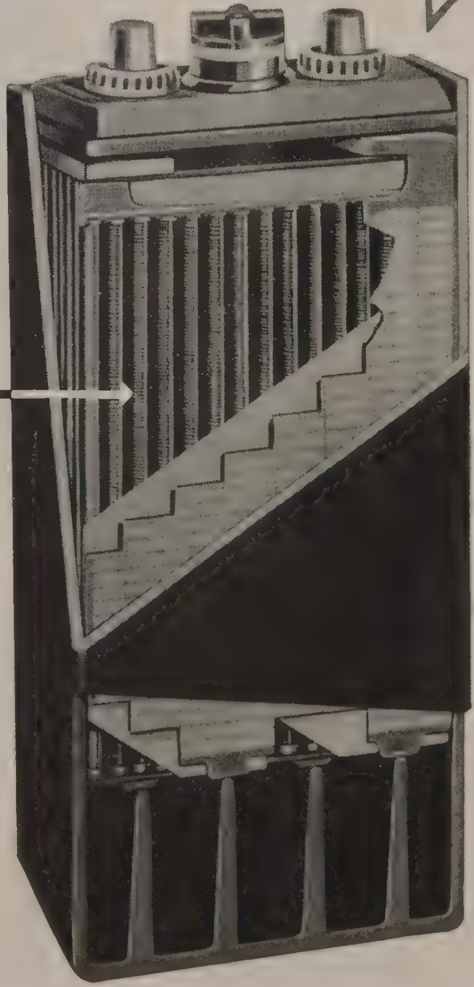

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(Data as of Jan. 1, 1948)

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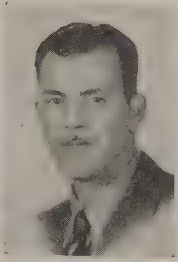
Dominion Fisheries, British Columbia Mining Building, Vancouver, B. C.—Chief Supervisor, A. J. Whitmore.

International Pacific Salmon Fisheries Commission, Dominion Building, New Westminster, B. C. —Chairman, Milo Moore; Director, B. M. Brennan.



Milo Moore

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Kyuquot Trollers Co-Operative Association, Bastion Bldg., 1140 Government St., Victoria, B. C.—President, John Donaldson; Managing-Secretary, A. E. Carr.

Monterey Purse Seiners' Association, 9 Fishermen's Wharf, Monterey, Calif. — President, Sam Lonero; Vice-President, Sal Colletto; Secretary, Frank J. Cardinale; Treasurer, John G. Spadaro.

Lower California Fisheries Association, 935 West Harbor Drive, San Diego, Calif.—President, Anthony Chiappe; Manager, J. J. Camillo.

J. J. Camillo

E. L. Haarager

Pacific Coast Purse Seiners Association, Pier 59, Seattle 1, Wash.—President, E. L. Haarsager.

Purse Seine Vessel Owners Association, 5301 North Ruby Street, Tacoma, Wash. — Secretary, Nick Mladnich.

Frank Buono

San Diego Fishermen's Association, 410 Harbor Drive, San Diego, Calif. — President, Frank Orlando; Secretary - Treasurer, Frank Buono.

San Francisco Purse Seine Boat Owners Association, 237 Jefferson St., San Francisco 11, Calif.—President, Giuseppe Torrente; Vice-President, Frank Gandolfo.

Southern California Fishermen's Association, 418 Harbor Lane, San Diego, Calif.—President, J. Oliver; Secretary -Treasurer, Victor Nigro.

Victor Nigro

FISHERMEN and CANNERY UNIONS

Abe Lehto

Alaska Fishermen's Union, 49 Clay St., San Francisco, Calif.—Secretary - Treasurer, Abe Lehto.

Alaska Native Brotherhood, Juneau, Alaska. — Secretary, W. L. Paul, Jr.

Cannery Workers' and Farm Laborers' Union, P. O. Box 3102, 221 Second Ave., Seattle, Wash.—President, T. A. Rojo; Secretary, Prudencio P. Mori.

Cannery Workers' & Fishermen's Union, 210 Broadway Bldg., San Diego, Calif. — Secretary-Treasurer, Les Ballinger.

Henry Niemela

Columbia River Fishermen's Protective Union, P. O. Box 142, Astoria, Ore.—President, R. G. Bristow; Executive Secretary, Henry Niemela.

Pacific Fisheries Organizations

(Data as of Jan. 1, 1948)

Cordova District Fisheries Union, IFAWA-C.I.O., P. O. Box 939, Cordova, Alaska—Executive Secretary, John Wiese.

Deep Sea Fishermen's Federal Union of B. C., P. O. Box 249, Prince Rupert, B. C.—President, H. Hansen; Secretary, George Andersen.

Deep Sea Fishermen's Union of the Pacific, 5215 Ballard Ave., Seattle, Wash.

George Issel

Fish Cannery Workers' Union of the Pacific (San Francisco Bay Area), 257 5th St., Richmond, Calif. — Secretary-Treasurer, George Issel.

Guy Alston

Fish Reduction and Saltery Workers, Local 7, 404 Bay Bldg., Seattle, Wash. — Secretary-Treasurer, Guy Alston.

LaConner Fishermen's Cooperative Association, LaConner, Wash. — President, Ray McNeil, Secretary-Manager, William Alvord.

J. F. Jurich

International Fishermen & Allied Workers of America, 4124 Arcade Bldg., Seattle —President, J. F. Jurich; Vice-President, Oscar Anderson; Secretary-Treasurer, Jeff Kibre.

International Fishermen & Allied Workers of America, Local No. 61, P. O. Box 927, Newport, Ore.—President, Gordon White; Secretary-Treasurer, M. M. Schatsley; Vice-President, Ben Safley.

Nick Kulgis

Otter Trawlers Union, Local No. 53, IFAWA, Pier 59, Seattle.—Secretary-Treasurer, Nick Kulgis.

Otter Trawlers Union, Local No. 50, International Fishermen & Allied Workers of America, P. O. Box 838, Astoria, Ore.—President, Al Mather; Secretary-Treasurer, William Elder.

Prince Rupert Fishermen's Cooperative Association, P. O. Box 264, Prince Rupert, B. C.—President, A. Martinusen; Secretary, T. H. Sorensen.

Seine and Line Fishermen's Union of Monterey, 233 Alvarado St., Monterey, Calif. — President, Horace Andante; Secretary-Business Agent, John Crivello.

George Miller

United Fishermen & Allied Workers' Union, Fishermen's Hall, 138 East Cordova St., Vancouver, B. C. — President, George Miller; Secretary-Treasurer, William Rigby; Business Agent, Alex Gordon.

United Fishermen of Alaska, P. O. Box 47, Kodiak, Alaska.—President, W. A. Cannon; Secretary, Charles Skinner.

United Trollers of Alaska, Box 2131, Ketchikan, Alaska.—Secretary, Harold F. Gilmore.

H. W. Brown

United Fishermen's Cooperative Association, 2195 Commissioner St., Vancouver, B. C. —President, Capt. H. W. Brown; General Manager and Secretary, Karl Dybhavn.

It has not been possible to secure data from *all* Pacific fisheries organizations, nor to include *all* of the pertinent data relative to those listed. Space considerations have made it necessary to condense the data for some organizations greatly. This is particularly true of International Fishermen & Allied Workers of America, which has numerous locals in addition to those listed.

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AN OPEN LETTER . . .
TO THE FISHING INDUSTRIES
OF THE PACIFIC NORTHWEST

When this yearbook reaches you, your plans and preparations for the 1948 pack season will be well under way.

So will our efforts and participation with you be either advancing or fulfilled, with the same awareness and understanding of your unusual problems, with which we have tried to characterize our dealings in past years.

The production facilities of Standard-Knapp, Alvey Conveyor Mfg. Co., and Durant Mfg. Co. are so geared with our own that we again expect to fulfill your requirements timely and correctly, with your usual co-operation.

The packers Educational Program Committee's school has again been extended the facilities of our organization as regards equqipment and other facilities for conducting same.

Very truly yours

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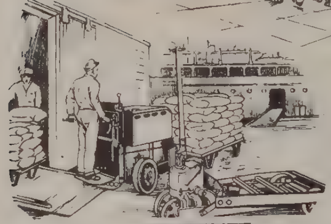

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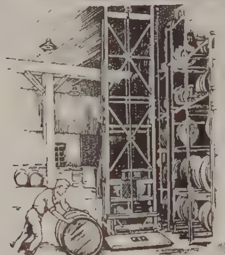
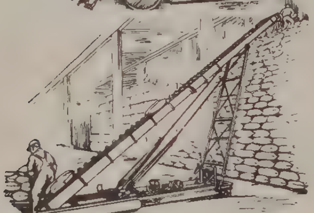


ECONOMY LIFTERS AND RACKS



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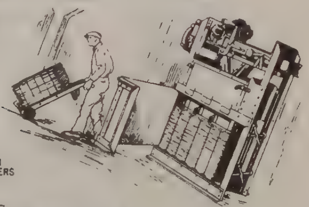

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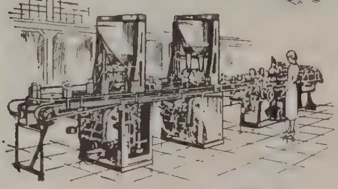

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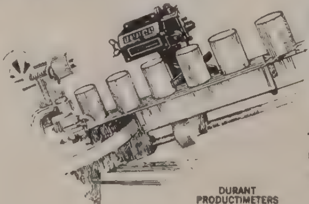
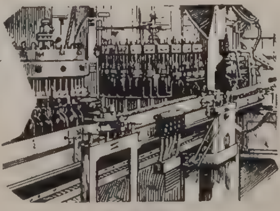


DURANT PRODUCTIMETERS



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OPERATING PLANTS IN ALASKA:
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SALMON
CANNING

Though still far below normal, the 1947 canned salmon pack exceeded 5,600,000 cases, increasing more than a million cases over 1946 and being the largest in four years; and the principal gain was in the more desirable varieties.

Large packs were made in the Bristol Bay and Chignik areas. The Puget Sound output was quite exceptional, and that of the Columbia River highly satisfactory. The only failures were in Southeast Alaska and Copper River.

Canned salmon production in 1947, though again below normal, made a substantial recovery from the low-tide mark of the previous year: the United States pack making a gain of over a million cases, with the largest total since 1943; while the entire output of North America was the best since 1942, increasing nearly a million and a quarter cases.

The season showed unusual irregularity as between the various major districts, with exceptionally large production in the Bristol Bay and Chignik areas of Alaska and on Puget Sound; while Copper River fell down badly, and Southeast Alaska experienced another failure, one of the worst on record.

Other parts of the territory yielded generally mediocre returns. The Columbia River made a relatively excellent showing, and minor coastal areas exceeded the previous year's high output. British Columbia's pack increased substantially over 1946 and several other recent years, but again fell below average.

These irregularities resulted mainly from variations in the runs of fish, but there were other contributing factors. Record prices naturally stimulated producing effort, and a slump in fresh and frozen fish markets early in the year resulted in more than usual canning activity at some points. Later, revival of freezer demand curtailed canning of fall fish; while restricted British buying of canned salmon combined with an insatiable demand in the United States to divert most of British Columbia's fall catch to Puget Sound.

Notable Gain in Reds

Of several notable features of production, most striking was the big jump in Reds in Alaska and in Pinks on Puget Sound. Alaska Reds made the largest pack in four years, with an increase of 810,341 cases or 76% over 1946, and stood well above average. Thus, despite an almost complete absence of Puget Sound Sockeyes, the United States total of this species exceeded that of the previous year by more than half a million cases.

Pinks, however, fell to a new low for recent years in Alaska, so that the largest output since 1931 on Puget Sound still left the total some 26% below average and short of the cycle-year 1945, though about 300,000 cases ahead of 1946. Alaska Chums, also, made the smallest pack since 1921 and, despite a substantial increase elsewhere, the U. S. total was the smallest since 1931.

Cohoes, though exceptionally short in Alaska, were plentiful elsewhere, making a fully normal total for the first time in five years. All King salmon areas except Copper River canned more than for several years.

1947--SUMMARY OF CANNED SALMON PACK--1947

District	Red, Sockeye or Blueback	Pink	Chum or Keta	Medium Red, Coho, Silver	King or Chinook	Steelhead Trout	Total Full Cases
Alaska	1,876,239	1,723,617	500,211	148,708	53,684	7	4,302,466
Puget Sound	7,516	639,426	139,131	79,450	29,143	- - - -	894,666
Columbia River	15,079	- - - -	17,121	42,789	250,318	21,999	347,306
U. S. Coast Areas	12,450	26	10,034	22,111	23,520	85	68,226
TOTAL U. S.	1,911,284	2,363,069	666,497	293,058	356,665	22,091	5,612,664
British Columbia	286,285	599,212	460,999	145,029	9,955	3,234	1,504,714
GRAND TOTAL	2,197,569	2,962,281	1,127,496	438,087	366,620	25,325	7,117,378

PAF

Quality Always

*—there is no magic formula
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*—salmon that has the reputation
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of support that are lasting.*

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14 CANNERIES IN ALASKA

Alaska's Red pack was the second-largest in eight years, and Kings did exceptionally well; but production of Pinks, Chums and Cohoes was extremely small. The grand total was just short of 1945.

A striking contrast was seen in the failure of Southeast Alaska and the big packs of Western Alaska and Chignik. Most areas of Central Alaska fell below normal.

Alaska's 1947 salmon production was larger than the previous year by 331,357 cases or over 8%, but otherwise the smallest since 1927, and has been exceeded in every year but three since 1914: falling about 26% below the present-day normal.

The shortage was in Pinks, Chums and Cohoes, all of which made the smallest packs in many years. Reds made a notable gain, running about 11% above the recent average, though far below the large packs of the 1930's; while the King pack was the largest in ten years.

By districts, Western Alaska (Bristol Bay, etc., producing mostly Reds) almost doubled its output of either of the previous two years, reaching the largest figure since 1938. Central Alaska made the smallest pack but one in twelve years. Reds gained substantially over 1946, and an exceptionally fine pack of Kings was made, but the showing in both Chums and Cohoes was lamentable: Pinks being about even with the small 1946 pack.

Southeast Alaska declined sharply for the third successive season, making a total of barely over a million cases for the first time in twenty years. Compared with 1946 it fell short by 401,351 cases or 27%, with a sharp drop in everything but Kings.

Bristol Bay Comes Back

Bristol Bay, after a long series of small packs, staged a gratifying come-back in 1947, making the largest pack in nine years—more than double those of either 1945 or 1946. Since 1938 this area had topped a million cases only twice, but this time it ran almost 350,000 cases above that mark, exceeding the official expectation by a good margin.

United States Canned Salmon Pack—1918 to 1947

YEAR	Red or Sockeye	Pink	Chum or Keta	Medium Red Coho or Silverside	King or Chinook	Steelhead	**Grand Total**	YEAR
1918	2,711,251	2,425,500	1,677,416	647,020	589,786	25,170	**8,076,143**	1918
1919	1,338,401	2,079,775	1,995,446	593,182	664,844	19,899	**6,630,347**	1919
1920	1,541,286	1,618,103	1,090,103	251,533	586,749	13,659	**5,101,705**	1920
1921	1,870,396	845,184	288,539	238,595	369,756	10,142	**3,622,612**	1921
1922	2,181,197	1,659,781	650,079	491,643	313,992	24,983	**5,231,675**	1922
1923	1,974,495	2,930,985	702,536	415,084	362,660	25,997	**6,411,757**	1923
1924	1,533,237	2,619,013	1,266,654	418,336	378,218	29,862	**6,245,320**	1924
1925	1,187,784	2,659,144	1,214,304	477,159	481,071	14,859	**6,034,321**	1925
1926	2,218,638	3,334,787	1,067,053	429,942	408,136	33,128	**7,491,684**	1926
1927	1,430,116	1,993,679	656,911	459,209	481,914	31,643	**5,053,472**	1927
1928	2,010,956	2,791,061	1,302,422	445,496	335,907	16,605	**6,902,447**	1928
1929	1,819,469	3,298,127	1,115,924	367,847	358,085	24,104	**6,983,556**	1929
1930	1,232,340	3,154,364	683,451	566,250	390,756	16,932	**6,044,093**	1930
1931	1,792,111	3,684,092	615,441	285,930	390,563	12,355	**6,780,492**	1931
1932	2,200,104	2,118,250	1,006,776	257,735	318,770	13,218	**5,914,853**	1932
1933	2,321,784	2,726,783	727,917	243,055	323,176	18,027	**6,360,742**	1933
1934	2,876,981	3,825,898	849,721	371,521	322,968	14,901	**8,361,990**	1934
1935	882,408	3,624,148	893,612	364,625	257,773	14,888	**6,037,454**	1935
1936	2,553,160	4,590,422	1,249,188	287,224	283,941	19,282	**8,983,217**	1936
1937	2,168,528	3,947,271	786,397	236,708	369,725	17,568	**7 526,197**	1937
1938	2,677,723	3,222,559	845,433	294,257	218,989	15,248	**7,274,209**	1938
1939	2,020,200	2,791,790	668,274	227,143	238,827	25,293	**5,971,527**	1939
1940	1,040,241	2,910,972	919,368	375,668	269,217	33,436	**5,548,902**	1940
1941	1,308,740	4,790,573	851,902	440,653	372,624	33,162	**7,779,654**	1941
1942	1,194,985	2,819,501	1,089,555	406,032	320,531	21,911	**5,852,515**	1942
1943	2,004,204	2,384,186	895,265	191,135	185,340	16,261	**5,676,391**	1943
1944	1 618,729	2,087,621	987,382	202,364	203,761	19,222	**5,119,079**	1944
1945	1,227,162	2,549,848	693,803	239,086	181,367	19,314	**4,910,580**	1945
1947	1,350,629	2,060,243	694,728	217,004	222,744	17,767	**4,563,115**	1946
1947	1,911,284	2,363,069	666,497	293,058	356,665	22,091	**5,612,664**	1947
Average	**1,661,114**	**2,956,456**	**843,210**	**283,005**	**258,312**	**21,918**	**6,022,216**	**Average**

"Average" is for ten years prior to 1947.

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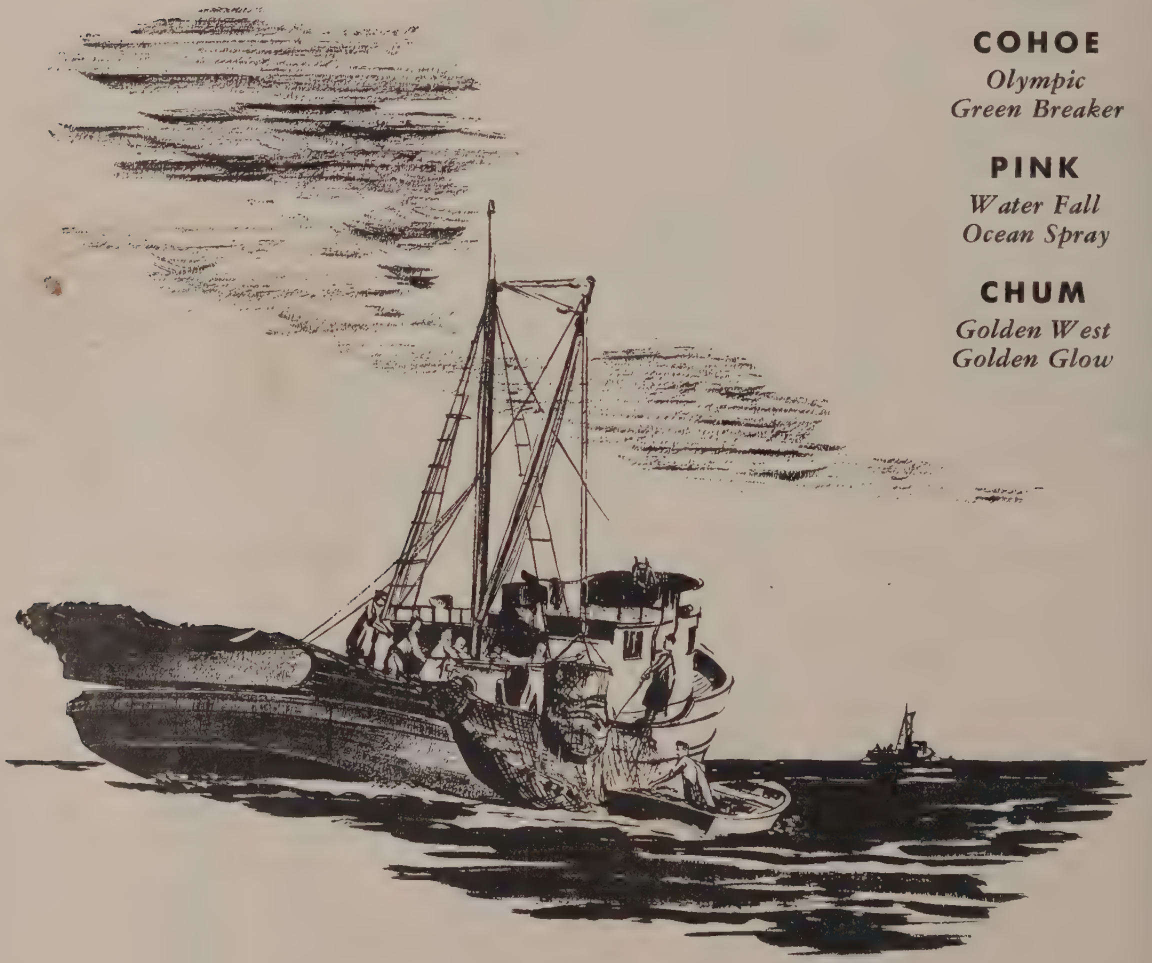

OFFICE & CANNERY AT ANACORTES, WASH.

DATA ON BRISTOL BAY OPERATIONS

Year—	Number Canneries Operated	Number Lines Operated	Number of Boats Fishing	Number of Set Nets	Total Fathoms of Gear	Salmon Pack (Full Cases)
1947	17	49	919	328	143,789	1,372,257
1946	16	41	767	203	125,100	682,180
1945	8	17	321	207	57,700	644,072
1944	13	33	655	187	106,780	982,802
1943	11	33	633	158	102,850	1,320,286
1942	6	12	222	88	33,300	469,024
1941	16	50	791	225	129,900	642.977
1940	8	36	497	235	86,300	446,513
1939	22	81	1,219	268	196,250	1,154,921
1938	17	67	961	189	153,600	1,834,436
1937	22	83	1,086	313	166,750	1,459,450
1936	23	91	1,102	410	170,900	1,450,856
1935	8	15½	181	169	35,600	245,047
1930	25	114	1,070	113	168,975	405,892

NOTE—Bristol Bay includes the Nushagak, Kvichak, Naknek, Egegik and Ugashik districts, but no other districts of Western Alaska.

The above data do not include saltery operations, in which 6 boats and 12 set nets, with a total of 1,400 fathoms of gear, were employed in 1947.

A good pack was anticipated, resulting mainly from the cycle-year 1942, when an excellent run, combined with sharp curtailment of fishing by war conditions, provided a large escapment. Operations were on the largest scale in eight years, with a substantial increase in number of canning lines as well as both drift-nets and set-nets, though some canneries continued closed through joint operating arrangements.

Preparatory work was greatly delayed by long-drawn labor negotiations. Fishermen did not start north until June 3, giving scant time to prepare their gear, although all hands except cannery workers went by air.

Fish prices were set at a record high: 25c each for Reds and Cohoes; 6c for Pinks, 12c for Chums and $1.10 each for Kings, while fishermen's "run money" was increased to $200.

Most notable of the runs to Bristol Bay streams was that to the Kvichak, which seemed to compare well with the best of former years: the Nushagak and Naknek runs being only mediocre, though the Egegik made a very good showing and the Ugashik was fairly heavy.

With the large capacity of modern canning lines, only a few plants had to put their boats on a limit for a few hours during the season. The summer was unusually stormy, which occasionally interfered with fishing.

Of other Western Alaska areas, the *Yukon*, packing only Kings, made the largest output in many years, while *Port Moller* in the North Peninsula area again made a very poor showing.

Reds made up over 95% of the Western Alaska pack; Chums about 3% and Kings 1%.

Chignik Has Great Run

Chignik, which was the "one bright spot" in 1946, enjoyed one of the greatest Red runs in its history; not only packing more of this species than in any year since 1932, but providing substantial quantities of fish for Kodiak canneries.

The run was strong at the opening, June 1, with over 25,000 cases packed in the first fortnight. Because of the heavy influx of gear from Kodiak, the area was closed from July 4 (when Reds had passed 115,000 cases) to July 14, when the main run was over; but some 31,000 cases were added later, together with over 20,000 Pinks.

Because of labor conditions the *South Peninsula* was a week late starting, and trap work was badly delayed. Early catches were light, but there were several weeks of good fishing after mid-June. The Red pack came out slightly above the recent average with a gain of nearly 75% over 1946, and the showing in Pinks and Chums was nearly normal: Pinks being up 25,320 cases or 28% from the previous year.

Despite an alarming drop in the Red runs of Karluk and Red rivers, the *Kodiak* area fell only 43,023 cases or about 7% short of the normal total of 1946. Reds, with the help of fish from Chignik, gained 19,778 cases over 1946, though 26% below average. Pinks were fully normal, though down a bit from the previous year; and the Chum pack was short.

The Karluk and Red River sections were closed after the first week, and most of the area was closed from June 12 to July 10. The Pink run was very spotty until Aug. 5, and there was only about a week of capacity operation, with fishing hampered by severe storms.

Pinks Short on Cook Inlet

The *Cook Inlet* Red run was fair, making a pack not below normal; and a large and long-continued run of Kings yielded the largest pack of that species on record. Pinks were short even for an off-year, with the smallest pack since 1939, and that of Chums was the smallest since 1938. Some plants here were delayed at the start by a jurisdictional labor dispute, and the season was unusually stormy, with many traps broken up just before the close.

Pinks on *Prince William Sound* gained 63,293 cases or 20% over 1946, but otherwise made the smallest pack since 1941, while Chum production was only 72% of the average, though Reds (a small item here) made a fair showing. The total was 11½% ahead of the previous year, but 12½% below average. With the season opening late, an early run of Pinks was believed to have escaped; the main run was below big-year standards, and the season closed with a storm.

Copper River had a virtual failure, with one of the smallest Red packs in the history of the district—less than 60% of the average—and the smallest total since 1939. Both Cohoes and Kings fell considerably below normal. The season opened with a storm, during which the first Red run was believed to have escaped. Bad weather continued through a great part of the season, and no really substantial runs developed.

Southeast Alaska Falls to New Low

Southeast Alaska's production fell to the lowest point, except for 1921 and 1927, since this area grew to real importance 38 years ago; its total being less than half the recent average, and about one-fourth of the 1941 record.

This drop reflects mainly the decline in Pinks, which fell 318,750 cases or about one-third below the previous year's poor figure; though Chums dropped 60,371 cases to about half the average and the lowest point since 1927, and Cohoes hit the second-lowest since 1913. Reds also, though only slightly below the previous year, made one of the smallest packs in history.

On Alaska's Bristol Bay

A fleet of Bristol Bay gillnet boats gives a picturesque setting to Libby's Koggiung cannery near the mouth of the Kvichak River on Kvichak Bay, Alaska.

. . . is one of Libby's big Salmon-canning plants . . .

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The big Koggiung cannery, one of the finest in Alaska, contributes its share to the hundreds of thousands of cases of wholesome, nutritious Libby's salmon canned each year from Alaska's icy waters.

Perfection in Libby's canned salmon is assured by the care with which our fish are handled, the cleanliness and sanitation of our canneries, and the precautions taken to safeguard the quality of our pack from the time the fish are caught until they are ready for the nation's canned food markets.

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**RED ALASKA
SOCKEYE
SALMON**

In Salmon, too . . .

LOOK TO LIBBY'S FOR PERFECTION

Chief basis of the failure was absence of substantial Pink runs throughout the season, though the runs of other species also were far below normal. A contributing factor—especially as regards Chums and Reds—was the exceptionally short season, adopted because of evidence of depletion of the Pink runs.

Opening from two to four weeks later than in former years in the various sections, the season finally closed Sept. 6 (a week earlier than in 1946), cutting the fishing time almost in half and eliminating a large part of the Red and Chum fishing. Provision was made for reopening after the "regular" season if conditions should warrant; but the late run in general failed to appear in large volume, and only a few scattered extra days in limited areas were permitted.

No Real Pink Run

Except at a few points, such as Anan Creek, there was no real Pink run during the regular season; and the brief extensions added nearly 400,000 cases, or around 40% of the final total. For comparison, about 75% of the 1946 pack was made during extension periods, of which over 500,000 cases was packed after Sept. 6.

In final returns the *Western, Eastern,* and *Wrangell* districts showed a slight increase over the previous year, and *Icy Strait* did a little better in Pinks; but the *Ketchikan* and *South Prince of Wales* districts fell down very badly.

Fairly substantial runs were reported after the regular closure in Chatham Strait - Frederick Sound waters, and also on the West Coast.

Southeast Alaska Pinks were somewhat larger in size than the previous year. Prices tended upward after the opening, with considerable variation — averaging around 24c each at Ketchikan, 22c on Chatham Strait and higher around Wrangell.

More interest was taken in fall canning than for several years but, with light catches and a sharp upturn in freezer demand, the output was small—less than 20,000 cases being packed by six canneries. Delay of the opening to Oct. 15, combined with heavy rain, caused most of the early run to escape, and canning was limited to a week or so. Prices for fall Chums were extremely high, ranging from 60c to as much as $1.00 each on the West Coast.

Pack of Canned Salmon in Alaska, 1896 to 1947, by Species

Salmon canning in Alaska commenced in 1878, but no segregation of the packs by species is available prior to 1896; while the valuations were not recorded prior to 1905. Earlier total packs, starting with 8,159 cases in 1878, ranged from 6,539 cases in 1880 to a peak of 801,400 in 1891; the output in 1895 being 626,530 cases. The average from the beginning through 1895 being 291,973 cases.

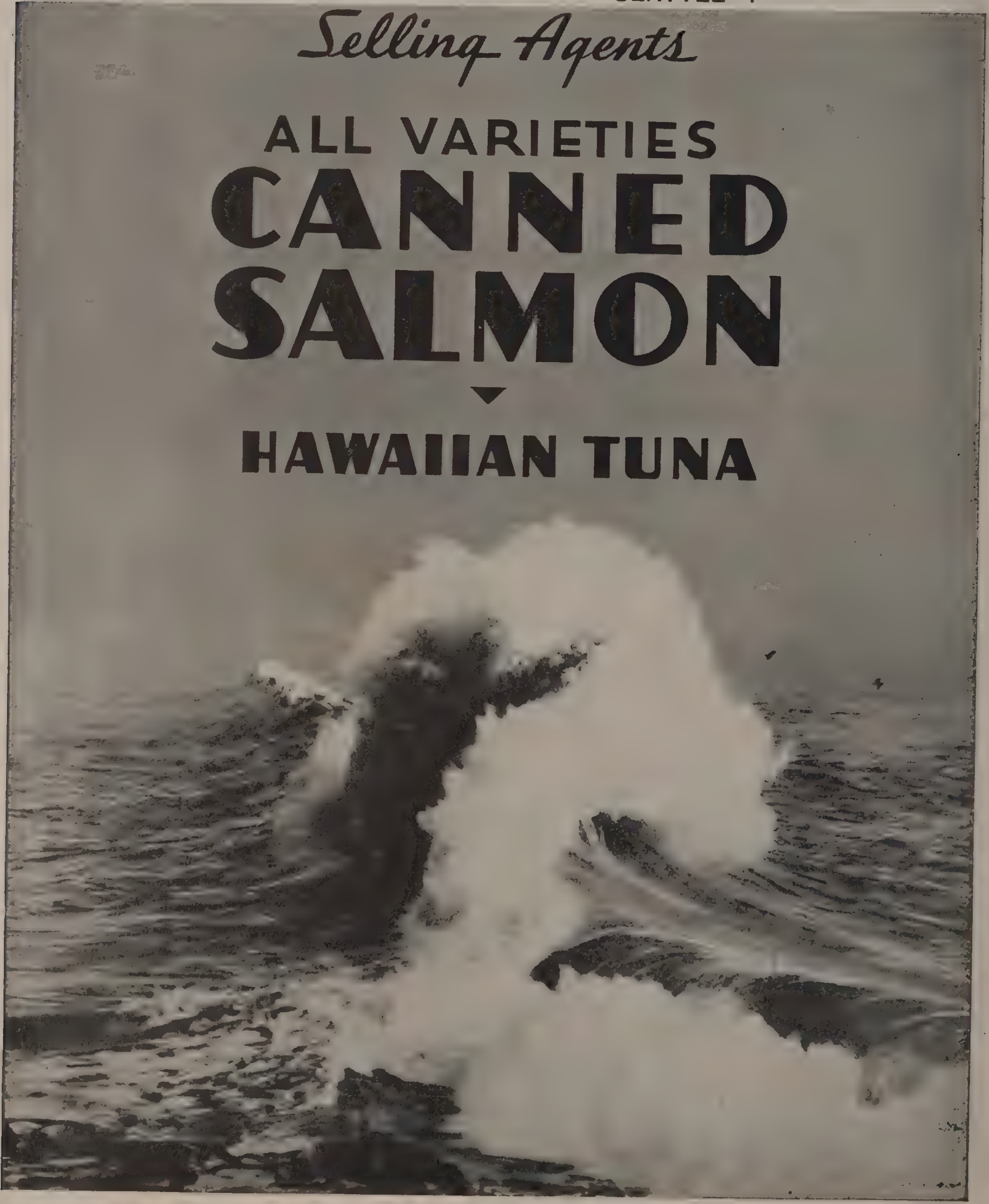
The "Average" figures at bottom of table are for ten years prior to 1947. Values are based on opening prices, or on prices at which the bulk of the packs were sold.

YEAR	RED, SOCKEYE		PINK		CHUM		COHO		KING		TOTAL		YEAR
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1896	806,010	....	111,986	....	452	....	37,017	....	11,242	....	966,707	....	1896
1897	688,581	....	157,711	....	1,396	....	43,557	....	17,833	....	909,070	....	1897
1898	782,941	.....	109,399	....	5,184	....	54,711	....	12,862	....	965,097	....	1898
1899	864,254	.....	149,159	....	1,931	....	39,402	....	23,400	....	1,078,146	.....	1899
1900	1,197,406	....	232,022	....	30,012	....	50,984	....	37,715	....	1,548,139	....	1900
1901	1,319,335	....	541,427	....	47,464	....	65,509	....	43,069	....	2,016,804	....	1901
1902	1,685,546	....	549,602	....	159,849	....	82,723	....	59,104	....	2,536,824	....	1902
1903	1,687,244	......	355,799	....	35,052	....	120,506	....	47,609	....	2,246,210	....	1903
1904	1,505,548	.	299,333	....	21,178	....	85,741	....	41,956	....	1,953,756	.	1904
1905	1,574,428	$5,335,547	168,579	$498,194	41,972	$113,056	67,394	$215,875	42,125	$141,999	1,894,516	$6,304,671	1905
1906	1,475,961	5,620,875	348,875	1,046,951	254,812	730,235	109,141	382,109	30,834	116,222	2,219,044	7,896,392	1906
1907	1,295,113	5,915,227	561,973	1,799,290	184,173	547,757	85,190	337,384	43,424	181,718	2,169,873	8,781,366	1907
1908	1,651,770	7,524,251	644,133	1,733,379	218,513	554,197	68,827	274,089	23,730	99,867	2,606,973	10,185,783	1908
1909	1,705,302	7,610,550	464,873	1,114,839	120,712	274,110	56,556	231,029	48,034	207,624	2,305,477	9,438,151	1909
1910	1,450,267	7,774,390	554,322	1,764,055	254,218	773,409	114,026	559,666	40,221	214,802	2,413,054	11,086,322	1910
1911	1,320,705	8,552,512	1,021,356	4,493,966	303,823	1,215,692	120,704	752,283	45,378	363,024	2,820,966	16,198,833	1911
1912	1,904,258	10,776,987	1,303,365	3,410,928	638,528	1,600,444	170,384	791,023	52,594	310,847	4,060,129	16,890,229	1912
1913	1,964,379	9,136,616	1,402,916	3,687,446	267,654	623,424	77,377	271,078	34,167	140,914	3,746,914	13,859,478	1913
1914	2,201,574	12,482,110	997,823	3,600,075	662,478	2,260,614	157,792	735,219	48,165	281,924	4,067,832	19,719,942	1914
1915	1,922,296	11,907,202	1,870,373	5,619,436	484,408	1,356,469	126,570	588,903	85,694	458,000	4,489,341	19,930,010	1915
1916	2,119,442	13,147,994	1,753,546	6,446,168	715,238	2,434,627	265,184	1,430,143	66,179	364,496	4,919,589	23,823,428	1916
1917	2,484,881	29,058,778	2,298,466	15,120,419	877,713	5,375,713	193,708	1,634,600	67,552	660,868	5,922,320	51,850,017	1917
1918	2,618,559	25,313,837	2,418,212	16,142,604	1,366,859	8,756,598	216,572	2,068,784	57,367	596,000	6,677,569	52,877,823	1918
1919	1,265,543	17,143,017	1,657,434	14,982,542	1,348,462	9,450,772	230,229	2,809,310	90,533	1,131,662	4,592,201	45,552,714	1919
1920	1,475,780	19,851,816	1,613,434	9,751,845	1,022,708	4,712,575	192,311	1,579,963	91,276	1,154,013	4,395 509	37,050,212	1920
1921	1,758,794	16,539,177	440,471	1,938,263	247,606	990,424	109,783	649,480	48,319	352,699	2,604,699	20,470,043	1921
1922	2,075,397	19,719,158	1,657,556	7,709,011	562,496	2,369,396	174,312	949,312	31,604	258,799	4,501,428	31,006,027	1922
1923	1,878,330	17,727,572	2,455,136	12,337,580	527,145	2,542,759	163,752	957,439	38,977	344,078	5,063,340	33,909,428	1923
1924	1,449,724	14,840,946	2,613,068	13,191,793	1,027,183	4,931,172	182,207	1,312,969	33,741	304,809	5,305,923	34,581,689	1924
1925	1,065,290	15,243,243	2,105,240	11,473,271	1,065,395	4,701,847	164,199	1,702,243	50,774	682,235	4,450,898	33,802,839	1925
1926	2,157,087	21,328,739	3,338,349	17,987,527	902,443	4,518,929	202,527	1,700,563	52,476	544,247	6,652,882	46,080,005	1926
1927	1,320,563	16,880,670	1,414,756	8,638,551	507,641	2,761,638	252,629	2,307,569	70,438	853,100	3,566,072	31,441,534	1927
1928	1,944,061	18,902,050	2,785,464	18,512,649	991,504	564,567	297,886	2,140,685	51,195	505,017	6,070,110	45,624,968	1928
1929	1,693,050	19,388,299	2,570,506	15,551,647	860,876	4,659,754	172,070	1,302,887	73,740	769,869	5,370,242	41,672,456	1929
1930	848,787	11,172,854	3,150,652	12,773,894	596,000	2,162,306	329,988	3,011,505	63,560	764,254	4,988,987	29,884,813	1930
1931	1,695,782	16,161,532	2,978,512	10,226,769	536,909	1,726,203	170,208	1,119,332	51,124	462,800	5,432,535	29,696,636	1931
1932	2,104,727	10,803,982	2,116,573	6,368,695	821,128	2,301,408	149,351	606,798	68,709	368,522	5,260,488	20,449,405	1932
1933	2,182,371	14,649,771	2,183,443	10,498,358	658,245	3,028,584	161,633	884,276	41,006	345,310	5,226,698	29,406,294	1933
1934	2,626,002	17,687,617	3,822,602	3,822,602	15,349,445	735,055	2,651,538	235,560	1,197,000	155,230	7,470,586	37,040,830	1934
1935	823,175	7,216,754	3,254,528	13,767,517	852,730	3,414,160	188,918	1,263,479	36,475	348,024	5,155,826	26,009,934	1935
1936	2,482,555	19,648,482	4,589,270	18,430,508	1,106,983	4,094,532	218,232	1,453,566	57,908	452,125	8,454,948	44,079,213	1936
1937	2,101,154	21,590,206	3,619,298	18,151,343	729,114	3,507,933	135,078	1,096,905	69,394	682,031	6,654,038	45,028,418	1937
1938	2,523,123	19,663,910	3,222,104	12,350,571	786,859	2,848,266	216,732	1,342,715	42,726	341,788	6,791,544	36,547,250	1938
1939	1,971,338	18,560,539	2,509,519	12,656,697	626,412	2,905,286	103,156	708,013	28,036	280,036	5,239,211	35,110,571	1939
1940	953,381	9,402,841	2,908,025	15,770,772	860,539	4,312,766	284,130	2,122,330	22,303	219,742	5,028,378	31,828,451	1940
1941	1,164,888	15,952,391	4,636,649	32,593,271	710,507	4,844,060	356,213	3,595,982	38,246	480,998	6,906,503	57,466,702	1941
1942	912,006	13,804,764	2,818,650	22,565,374	942,789	7,178,696	372,537	4,442,108	43,127	686,567	5,089,109	48,677,509	1942
1943	1,982,175	30,381,755	2,322,057	18,701,467	882,578	6,755,829	158,734	1,937,981	50,965	802,162	5,396,509	58,579,194	1943
1944	1,580,757	24,254,327	2,087,322	16,924,966	985,725	7,565,526	187,053	2,278,938	36,939	584,787	4,877,796	51,608,544	1944
1945	1,173,356	18,260,328	2,239,282	18,201,352	688,485	5,312,578	195,860	2,078,066	41,709	676,640	4,338,692	44,528,964	1945
1946	1,065,898	22,880,873	2,057,121	24,685,452	617,155	7,120,923	193,061	3,231,992	37,874	748,321	3,971,109	58,667,561	1946
1947	1,876,239	45,390,823	1,723,617	32,269,419	500,211	8,983,297	148,715	3,522,434	53,684	1,131,912	4,302,466	91,297,885	1947
Avg	**1,542,807**	**19,475,193**	**2,842,002**	**19,260,126**	**783,016**	**5,235,186**	**220,255**	**2,283,503**	**41,207**	**550,307**	**5,429,289**	**46,804,316**	**Avg.**

SINCE 1895

KELLEY-CLARKE COMPANY

AMERICAN BUILDING • SEATTLE 4



Selling Agents

ALL VARIETIES

CANNED SALMON

▼

HAWAIIAN TUNA

1947 -- Pacific Canned Salmon Pack -- 1947

District	Red or Sockeye				Pink				Chum or Keta			Medium Red, Coho or Silver				Chinook or King				Steelhead Trout			Grand Total (Full Cases
	1-Lb. Talls	1-Lb. Flats	½-Lb. and ¼-Lb. Flats (48 lbs. net)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. and ¼-Lb. Flats (48-lbs.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. and ¼-Lb. Flats (48-lbs.)	Total	1-Lb. Talls	½-Lb. and ¼-Lb. Flats (48-lbs.)	Total	
Alaska	1,699,117	38,877	138,245	1,876,239	1,643,733		79,884	1,723,617	455,110	45,101	500,211	116,558	819	31,331	148,708	19,617	10,539	23,528	53,684		7	7	4,302,466
Puget Sound	559	1	6,956	7,516	396,612	1,611	241,203	639,426	115,282	23,849	139,131	15,430	707	63,313	79,450	9,643	4	19,496	29,143				894,666
Columbia River			15,079	15,079					6,616	10,505	17,121	744		42,045	42,789	14,633	23,934	211,751	250,318	1,325	20,674	21,999	347,306
Minor Costal Areas			12,450	12,450	26			26	9,607	427	10,034	9,152		12,959	22,111	3,417	7,520	12,583	23,520		85	85	68,226
Total U. S. Pack	**1,699,676**	**38,878**	**172,730**	**1,911,284**	**2,040,371**	**1,611**	**321,087**	**2,363,069**	**586,615**	**79,882**	**666,497**	**141,884**	**1,526**	**149,648**	**293,058**	**47,310**	**41,997**	**267,358**	**356,665**	**1,325**	**20,766**	**22,091**	**5,612,664**
British Columbia				286,285				599,212			460,999				145,029				9,955			3,234	1,504,714
Total North America				**2,197,569**				**2,962,281**			**1,127,496**				**438,087**				**366,620**			**25,325**	**7,117,378**

NOTE: British Columbia statistics, obtained from official sources, are preliminary only, and subject to later correction. Only the totals for the various species canned in British Columbia are available, without segregation as to style of package.

A few 4-lb. Flats, 12 to the case, are included with 1-lb. Flats or Talls in the Puget Sound pack.

Such Ovals as were canned are included with 1-lb. or ½-lb. Flats.

Quarter-pound cans, reduced to the basis of 48 lbs. net to the case, are included with Halves, as follows: Puget Sound, 157 cases of Sockeyes, 581 Pinks, 10 Chums, 288 Cohoes and 55 Chinooks; Columbia River, 6,362 cases fancy and 1,308 standard Chinooks, 13,329 Silvers, 3,491 Bluebacks and 2,955 Steelheads; Oregon coast, 5, 054 Chinooks and 7,738 Silvers.

1947 -- Western Alaska Canned Salmon Pack -- 1947

	Company	Cannery Location	Red				Pink	Chum	Coho	King or Chinook			Grand Total (Full Cases)	
			1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Talls	1-Lb. Talls	1-Lb. Talls	1-Lb. Flats	Total		
1	Alaska Packers Association	Nushagak, Kvichak, Naknek, Egegik, Ugashik	393,853			393,853		10,154	423	1,012		1,012	405,442	1
2	Astorian Fisheries Corp	Naknek (floating)*								1,090		1,090	1,090	2
3	Bering Trading Co	Kwiguk (Yukon River)									6,150	6,150	6,150	3
4	Bristol Bay Packing Co	Dillingham	20,896		4,045	24,941		2,511	98	415		415	27,965	4
		Pederson Point	69,670	17,775		87,445		1,046	9	39		39	88,539	
5	Columbia River Packers Association Inc.	Nushagak	20,825		4,040	24,865		2,486	114	415		415	27,880	5
		Naknek	84,356			84,356		1,227		59		59	85,642	
6	Egegik Packing Co	Egegik *			156	156		14	551				721	6
7	Intercoastal Packing Co	Nornek (b)	65,807			65,807		988		50		50	66,845	7
8	Libby, McNeill & Libby	Ekuk, Koggiung, Libbyville and Egegik	253,006			253,006		8,897	389	868		868	263,160	8
9	Nakat Packing Corporation	Nakeen	110,600			110,600		969		94		94	111,663	9
10	Northern Commercial Co	Kwiguk (Yukon River)									3,500	3,500	3,500	10
11	Pacific American Fisheries, Inc	Nushagak, Naknek and Port Moller (a)	132,938	6,376	9,765	149,079		8,399	221	1,119		1,119	158,818	11
12	Peninsula Packers	Port Moller, etc	11,382			11,382	8,449	4,430	15	35		35	24,311	12
13	Red Salmon Canning Co	Naknek	110,822			110,822		1,032		32		32	111,886	13
14	L. G. Wingard Packing Co	Ugashik	28,110			28,110		596	66	7		7	28,779	14
15	Win-Ra Fisheries, Inc	Ugashik (floating)	5,729			5,729		65	7				5,801	15
	TOTAL		**1,307,994**	**24,151**	**18,006**	**1,350,151**	**8,449**	**42,814**	**1,893**	**5,235**	**9,650**	**14,885**	**1,418,192**	

(a) Packs of Alaska Packers Association and Pacific American Fisheries, Inc., are shown in detail elsewhere in this issue.

(b) Pack of Intercoastal Packing Co. made through joint operation in Naknek plant of Columbia River Packers Association, Inc.

* New Cannery.

Oceanic Sales Company

SMITH TOWER
SEATTLE 4, U. S. A.

ALASKA
PUGET SOUND
COLUMBIA RIVER
CANNED SALMON

ALASKA CRAB MEAT
NORTHWEST TUNA
MINCED and WHOLE CLAMS

BRANDS

Red Alaska Sockeye

- Red-E-Lunch
- Hummer

Puget Sound Sockeye

- Coatarms

Pink

- Oceanic
- Seafed
- Alex
- Edola
- Down South
- Soo-Pere-Yor
- Hypatia

Cohoe

- Ocean's Best
- Salad
- Western Star

Chinook

- Springkist
- Tower

Chum

- Ben Hur
- Overland
- Tomah
- Tennis

Crab Meat

- Oceanic

Clams

- Oceanic

Tuna

- Oceanic
- Seafed

A Continuously Constructive Force
In the Salmon Industry

1947 -- Central Alaska Canned Salmon Pack -- 1947

	Company	Cannery Location	Red or Sockeye				Pink			Chum			Coho			King or Chinook			Grand Total (Full Cases)	
			1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total		
1	Alaska Pacific Salmon Co.	Sand Point	1,362		8,409	9,771	28,812	502	29,314	7,781		7,781	2,259		2,259	253		253	**49,378**	1
2	Alaska Packers Association	Chignik, Karluk and Alitak (a)	82,450		5,444	87,894	75,037		75,037	8,325		8,325	480		480	97		97	**171,833**	2
3	Alaska-Seldovia Packers, Inc	Seldovia (b)	4,287		2,787	7,074	16,997	220	17,217	6,521	381	6,902	942	1,239	2,181	492	1,184	1,676	**35,050**	3
4	Alaska Year-Round Canneries	Seldovia	436		1,992	2,428	7,101	692	7,793	972	270	1,242	518	755	1,273	611	5,675	6,286	**19,022**	4
5	Anderson-Kenai Operation (c)	Kenai	6,365			6,365	32		32	1,224		1,224	1,761		1,761	68		68	**9,450**	5
6	Cape Douglas Canning Corp	Swikshak Lagoon *			642	642		1,358	1,358		119	119							**2,119**	6
7	Chignik Fisheries Co. (d)	Chignik	44,139			44,139	6,584		6,584	773		773	192		192				**51,688**	7
8	Cook Inlet Packing Co.	Seldovia	2,655			2,655	115		115	8		8	1,208		1,208	1,824		1,824	**5,810**	8
9	Copper River Cooperative Co.	Copper River and Eshamy Bay (floating)			5,793	5,793		1,780	1,780		590	590		65	65		93	93	**8,321**	9
10	Copper River Packing Co	Port Nellie Juan	2,273			2,273	67,268		67,268	11,077		11,077	747		747				**81,365**	10
11	Cordova Packing Co	Cordova			70	70		576	576		118	118							**764**	11
12	Crystal Falls Fish Co	Mountain Slough	972			972							1,818		1,818	50		50	**2,840**	12
13	Dayville Packing Co	Dayville	84			84	13,797		13,797	5,192		5,192	40		40				**19,113**	13
14	Ellamar Packing Co	Ellamar	559			559	23,164		23,164	8,185		8,185	314		314				**32,222**	14
15	Emard Packing Co	Anchorage	16,133		223	16,356				3,785		3,785	8,127	11	8,138	1,492	9,820	11,312	**39,591**	15
16	Fidalgo Island Packing Co	Port Graham	17,781			17,781	3,955		3,955	1,124		1,124	1,295		1,295	1,097		1,097	**25,252**	16
17	General Fish Co	Anchorage	8,371			8,371	104		104	2,667		2,667	6,045		6,045	85		85	**17,272**	17
18	Gilbert, W. R. Co., Inc	Cordova	887		4,607	5,494	16,026	378	16,404	2,347	188	2,535	1,006	371	1,377		478	478	**26,288**	18
19	Grimes Packing Co	Ouzinkie	3,231			3,231	36,343		36,343	2,283		2,283	4,013		4,013				**45,870**	19
20	Halferty, G. P. & Co	Cordova	285		6,746	7,031	24,733	2,156	26,889	5,588		5,588	2,357	982	3,339	185	646	831	**43,678**	20
21	Harris, P. E. & Co	False Pass	25,979			25,979	19,928		19,928	34,462		34,462	821		821	†55		55	**81,245**	21
22	Kadiak Fisheries Co	Port Bailey	15,053			15,053	92,704		92,704	4,193		4,193	989		989	27		27	**112,966**	22
		Shearwater Bay	3,744		234	3,978	61,657		61,657	1,196		1,196	45		45				**66,876**	
23	Kester, R. A.	Polly Creek *			213	213					70	70		630	630		104	104	**1,017**	23
24	Libby, McNeill & Libby	Kenai and Moser Bay	28,450		13,009	41,459	25,882		25,882	2,439		2,439	6,809		6,809	6,739		6,739	**83,328**	24
25	McConaghy & Co., Frank	Kodiak	2,213			2,213	37,452		37,452	1,997		1,997	10		10				**41,672**	25
26	New England Fish Co	Orca	1,206		8,000	9,206	60,647		60,647	14,477		14,477	5,878	3,516	9,394	65	1,241	1,306	**95,030**	26
27	Orcas Canning Corp	Carmel	12,952			12,952	9,776		9,776	540		540							**23,268**	27
28	Pacific American Fisheries, Inc	King Cove, Squaw Harbor, Chignik, Alitak and Snug Harbor (a)	34,210	13,717	19,225	67,152	79,598	527	80,125	(g) 21,008	13,908	34,916	(h) 3,178	265	3,443	(j) 557		557	**186,193**	28
29	Parks Canning Co., Inc	Uyak	1,272		5,052	6,324	27,201	21	27,222	4,212	8	4,220	83	8	91				**37,857**	29
30	Parks, H. M. Co., Inc	Cordova			788	788		6,103	6,103		2,705	2,705		14	14		9	9	**9,619**	30
31	Parks, James W. & Sons	Cordova	942		1,853	2,795	10,410		10,410	1,822		1,822	1,393	619	2,012		225	225	**17,264**	31
32	Peninsula Packers	False Pass (floating)	17,576			17,576	236		236	4,378		4,378	6		6	17		17	**22,213**	32
33	Polar Sea Foods, Inc	Kasilof (f)	15		12	27							137	79	216				**243**	33
34	Port Ashton Packing Corp	Port Ashton	1,407			1,407	47,428		47,428	2,260		2,260	721		721	14		14	**51,830**	34
35	Port Chatham Packing Co	Portlock			207	207		353	353		1,889	1,889		242	242				**2,691**	35
36	Resurrection Bay Co	Seward	778			778	670		670	902		902	163		163				**2,513**	36
37	Sandvik, Mrs. Josie	Uganik Bay			148	148		386	386		49	49		4	4				**587**	37
38	San Juan Fishing & Packing Co	Port San Juan	2,822			2,822	72,792		72,792	4,550		4,550	2,534		2,534	31		31	**82,729**	38
		Uganik Bay	10,693			10,693	61,552		61,552	2,649		2,649	520		520				**75,414**	
39	Snug Harbor Packing Co	Chisik Island	7,971	875		8,846	38		38	103		103	(i) 2,134		2,134	(k) 413		413	**11,534**	39
40	Trading Bay Packers	West Foreland		134		134				†15		15	†172		172	†459		459	**780**	40
41	Uganik Fisheries, Inc	Uganik Bay	1,165			1,165	31,295		31,295	1,476		1,476	302		302				**34,238**	41
42	Washington Fish & Oyster Co	Port Williams	778			778	28,861		28,861	439		439	532		532				**30,610**	42
43	Western Fisheries Co	Cordova	2,824		5,556	8,380	31,228		31,228	5,466		5,466	4,179	1,860	6,039		674	674	**51,787**	43
	TOTAL		**364,320**	**14,726**	**91,010**	**470,056**	**1,019,423**	**15,052**	**1,034,475**	**176,436**	**20,295**	**196,731**	**63,728**	**10,660**	**74,388**	**14,631**	**20,149**	**34,790**	**1,810,430**	

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* New Cannery. † 1-lb. Flats, entered in 1-lb. Tall column.

(a) Packs of Alaska Packers Association and Pacific American Fisheries, Inc., are shown in detail elsewhere in this issue. Alaska Packers Association's Alitak pack was made through joint operation in Pacific American cannery. Pacific American pack at Chignik was made in Alaska Packers Association cannery; that at Snug Harbor in plant of Snug Harbor Packing Co.

(b) Formerly Seldovia Packers. (c) Kenai Packing Co. cannery, operated under private arrangement by Capt. C. E. Anderson. (d) Formerly Chignik Salmon Co. (f) Formerly located at Ninilchik. (g) Includes 1,641 cases 1-lb. Flats, in 1-lb. Tall column. (h) Includes 494 cases 1-lb. Flats. (i) Includes 153 cases 1-lb. Flats. (j) Includes 187 cases 1-lb. Flats. (k) Includes 188 cases 1-lb. Flats.

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260 California Street

Cable Address—**MISKAND**

1947 -- Southeast Alaska Canned Salmon Pack -- 1947

	Company	Cannery Location	Red or Sockeye			Pink			Chum			Coho			King			Grand Total (Full Cases)	
			1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total		
1	Annette Islands Canning Co	Metlakatla	793		793	29,249		29,249	10,826		10,826	1,210		1,210	123		123	42,201	1
2	Astoria & Puget Sound Can. Co	Excursion Inlet		2,183	2,183	7,231	1,443	8,674	2,063	1,810	3,873	209	767	976	39	20	59	15,765	2
3	Baranof Canneries, Inc	Port Conclusion	2	285	287	7,707	13	7,720	1,411	13	1,424	89	1,328	1,417		15	15	10,863	3
4	Beegle Packing Co	Ketchikan (a)	179	266	445	8,087	2,076	10,163	1,910	432	2,342	424	255	679	8		8	13,637	4
5	Binkley's Canning Co	Wrangell *		593	593		527	527		220	220		(z) 492	492		1,004	1,004	2,836	5
6	Douglas Canning Co	Douglas	1,313	1,047	2,360	3,731	149	3,880	9,012	145	9,157	4,307	615	4,922				20,319	6
7	Farwest Wrangell Co	Wrangell	727		727	42,292		42,292	7,238		7,238	3,591		3,591				53,848	7
8	Fidalgo Island Packing Co	Ketchikan	672		672	28,824		28,824	8,696		8,696	1,925		1,925				40,117	8
		Pillar Bay	203		203	2,911		2,911	1,379		1,379	582		582	77		77	5,152	
9	Grindall Fisheries	Saginaw Bay	15	1,719	1,734	2,618	10,083	12,701	6,575	4,893	11,468	63	406	469		325	325	26,697	9
10	Haines Packing Co	Letnikof Cove		4,075	4,075		24	24		150	150		87	87				4,336	10
11	Harris, P. E., & Co	Haw Inlet, Kake (b), Ketchikan, Rose Inlet (c)	6,045	620	6,665	73,329	4,843	78,172	22,580	1,008	23,588	6,224	596	6,820	21		21	115,266	11
12	Hydaburg Coop. Assn.	Hydaburg	1,031		1,031	10,461		10,461	3,719		3,719	892		892				16,103	12
13	Icy Straits Salmon Co	Hoonah	49	2,095	2,144	12,477	1,256	13,733	6,447	440	6,887	9	1,083	1,092				23,856	13
14	Independent Salmon Canneries	Ketchikan	716		716	27,504		27,504	5,941		5,941	2,758		2,758	12		12	36,931	14
15	Kayler-Dahl Fish Co	Petersburg		3,277	3,277		8,263	8,263		4,460	4,460		1,812	1,812		1,283	1,283	19,095	15
16	Ketchikan Packing Co	Ketchikan	970		970	41,758		41,758	8,768		8,768	3,580		3,580				55,076	16
17	Libby, McNeill & Libby	Yakutat, Taku, George Inlet, Craig and Klawock (d)	889	6,095	6,984	38,216	10,591	48,807	19,270		19,270	5,366	3,315	8,681	8	158	166	83,908	17
18	Lutak Fish Co	Haines *		131	131		3	3		6	6		1	1		11	11	152	18
19	Nakat Packing Corp	Hidden Inlet and Waterfall	1,212	2,433	3,645	59,157	18,731	77,888	22,541	3,547	26,088	3,293	4,662	7,955				115,576	19
20	New England Fish Co	Chatham, Ketchikan and Craig (e)	1,586	210	1,796	58,721		58,721	25,104		25,104	2,563	1,713	4,276				89,897	20
21	North Pacific Canning Co. †	Scow Bay	236		236	14,722		14,722	3,228		3,228	1,536		1,536				19,722	21
22	Pacific American Fisheries, Inc.	Excursion Inlet, Kasaan, Petersburg and Pillar Bay (c)	849	2,758	3,607	52,749	3,778	56,527	12,363	3,335	15,698	3,452	1,388	4,840	134	19	153	80,825	22
23	Pyramid Fisheries Co	Sitka	1,598		1,598	8,729		8,729	3,861		3,861	301		301				14,489	23
24	Salt Sea Fisheries	Tenakee		26	26		673	673		3,000	3,000		90	90				3,789	24
25	Sebastian-Stuart Fish Co	Tyee	157		157	6,582		6,582	3,032		3,032	239		239	3		3	10,013	25
26	Smith & Morrow	Sitka *		391	391								687	687		544	544	1,622	26
27	Specialty Processors, Inc	Petersburg *		778	778		1,589	1,589		1,347	1,347		987	987				4,701	27
28	Superior Packing Co	Tenakee	839		839	9,584		9,584	8,741		8,741	755		755				19,919	28
29	Todd Packing Co	Todd (f)	363		363	11,178		11,178	4,280		4,280	384		384				16,205	29
30	Wards Cove Packing Co	Ketchikan	1,088		1,088	33,183		33,183	12,903		12,903	3,129		3,129				50,303	30
31	West Coast Packing Co	Klawock		247	247	6,635	790	7,425	7,260		7,260	132	394	526				15,458	31
32	Whiz Fish Products Co	Hood Bay (g)	144		144	8,340		8,340	2,729		2,729	452		452				11,665	32
		Pelican	5,127		5,127	9,886		9,886	13,983		13,983	4,291		4,291	215		215	33,502	
	TOTAL		**26,803**	**29,229**	**56,032**	**615,861**	**64,832**	**680,693**	**235,860**	**24,806**	**260,666**	**51,756**	**20,678**	**72,434**	**640**	**3,379**	**4,019**	**1,073,844**	

* New cannery.

† New company, operating Scow Bay cannery of Oscar Nicholson under lease.

(a) Beegle Packing Co.'s pack canned by joint operation in plant of P. E. Harris & Co.

(b) P. E. Harris & Co.'s Kake pack canned by joint operation in Pacific American plant at Petersburg.

(c) Pack of P. E. Harris & Co. and Pacific American Fisheries, Inc., are tabulated in detail elsewhere in this issue.

(d) Libby, McNeill & Libby's Taku pack canned by joint operation in New England Fish Co.'s Chatham plant, and the George Inlet pack in Pacific American plant at Kasaan.

(e) New England Fish Co.'s Noyes Island pack canned by joint operation in Libby, McNeill & Libby's Craig plant.

(f) Todd Packing Co.'s pack canned by joint operation in Peninsula Packers' floating cannery.

(g) Cannery of Hood Bay Salmon Co. leased by Whiz Fish Products Co.

(z) Fish tabulated as Coho halves include 7 full cases of Steelhead Trout

1947 -- Recapitulation of Alaska Canned Salmon Pack -- 1947

District	Red or Sockeye				Pink			Chum			Medium Red or Coho				King or Chinook				Grand Total (Full Cases)
	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8-doz.)	Total	
Southeast Alaska	26,803		29,229	56,032	615,861	64,832	680,693	235,860	24,806	260,666	51,756		*20,678	72,434	640		3,379	4,019	1,073,844
Central Alaska	364,320	14,726	91,010	470,056	1,019,423	15,052	1,034,475	†176,436	20,295	196,731	62,909	819	10,660	74,388	13,742	889	20,149	34,780	1,810,430
Western Alaska	1,307,994	24,151	18,006	1,350,151	8,449		8,449	42,814		42,814	1,893			1,893	5,235	9,650		14,885	1,418,192
Total	**1,699,117**	**38,877**	**138,245**	**1,876,239**	**1,643,733**	**79,884**	**1,723,617**	**455,110**	**45,101**	**500,211**	**116,558**	**819**	**31,338**	**148,715**	**19,617**	**10,539**	**23,528**	**53,684**	**4,302,466**

* Includes 7 full cases Steelhead Trout in column with Cohoes, ½-lb.Flats.

† Includes 1,656 cases 1-lb. Flats in column with Chum Talls.

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Alaska Canned Salmon Pack by Subdivisions, 1938 to 1947

District and Year	Reds (Cases)	Pinks (Cases)	Chums (Cases)	Cohoes (Cases)	Kings (Cases)	Total (Cases)
Bristol Bay and Yukon (June 23-July 23)—						
1938	1,772,885		54,551	345	5,446	1,833,227
1939	1,059,181		88,272		5,038	1,152,491
1940	402,899	16,081	30,624	1,445	3,504	454,553
1941	577,024	9	50,901	3,436	5,785	637,155
1942	438,053	8,564	16,749	2,638	7,001	473,005
1943	1,275,212		37,757	180	11,826	1,324,975
1944	954,694	3,911	31,838	2,408	5,420	998,271
1945	576,318		66,888	3,105	9,478	665,789
1946	628,240	4,073	36,436	2,663	10,768	682,180
1947	1,332,542		34,917	792	13,720	1,381,971
Average	901,705	3,264	44,893	1,701	7,799	960,362
Alaska Peninsula, North Side (June 24-July 31)—						
1938	73,942		5,063		1,053	80,058
1939	56,310	2	6,478		465	63,255
1940	56,158		4,914		79	61,151
1941	36,366	95	4,953		179	41,593
1942						
1943	39,330	54	3,680		56	43,120
1944	31,849	130	12,855		21	44,855
1945	32,342	127	25,007		22	57,498
1946	27,821		1,798		167	29,786
1947	25,699	2	6,167	8	71	31,947
Average	31,408	63	9,901		67	41,441
Alaska Peninsula, South Side (May 27-Aug. 8)—						
1938	57,439	367,827	128,574	21,650	1,655	577,145
1939	149,046	292,203	120,901	9,835	4,483	576,468
1940	88,690	356,969	209,749	18,063	3,330	676,801
1941	97,695	233,438	163,058	17,298	3,008	514,497
1942	56,886	291,392	117,532	10,437	843	477,090
1943	177,000	167,024	70,727	6,657	1,934	423,342
1944	40,585	123,988	82,560	21,108	819	269,060
1945	58,984	140,319	73,752	9,923	1,765	284,743
1946	50,808	89,164	88,544	12,122	688	241,326
1947	88,910	114,484	61,607	3,851	487	269,339
Average	83,257	126,996	75,438	10,732	1,139	297,560
Chignik (June 1-Oct. 1)—						
1938	35,117	12,071	6,792	2,254	148	56,412
1939	142,770	13,744	6,874	728	377	164,493
1940	27,772	4,083	2,349	20		34,224
1941	59,373	16,373	15,345	2,322	316	93,729
1942	56,977	22,962	11,853	1,093	378	93,263
1943	110,086	4,265	4,638	1,924	290	121,203
1944	47,448	29,283	6,221	1,223	442	84,617
1945	18,666	18,381	11,582	638	222	49,489
1946	70,817	39,544	22,049	695	305	133,410
1947	146,552	23,231	5,164	487	86	175,520
Average	78,714	22,941	9,931	993	269	112,848
Kodiak Area (June 1-Aug. 16 and Sept. 10-30)—						
1938	142,112	450,098	69,792	14,716	316	677,034
1939	115,604	603,492	62,185	9,442	651	791,374
1940	93,751	443,154	60,332	14,246	313	611,796
1941	121,725	508,306	57,368	22,854	638	710,891
1942	83,340	313,711	76,563	10,751	363	484,728
1943	129,105	555,209	41,766	5,682	308	732,070
1944	142,212	335,683	56,035	5,623	183	539,736
1945	154,513	491,346	64,957	5,640	521	716,977
1946	65,810	541,334	37,817	3,982	34	648,977
1947	85,588	490,556	23,090	6,675	45	605,954
Average	115,446	482,806	44,733	5,520	218	648,743
Cook Inlet (May 20-Aug. 8)—						
1938	170,725	54,894	16,260	32,745	16,060	290,684
1939	183,304	15,570	20,726	13,076	16,554	249,230
1940	129,952	122,437	26,695	46,015	15,995	341,093
1941	90,885	38,235	24,706	31,105	27,448	212,379
1942	98,418	55,722	40,110	61,734	28,617	284,604
1943	102,746	60,540	26,292	23,447	30,963	243,988
1944	156,799	96,694	23,311	25,442	25,668	327,914
1945	118,849	54,370	28,302	28,718	22,420	252,659
1946	105,065	60,101	31,593	35,835	17,191	249,785
1947	100,714	27,612	19,005	32,802	32,092	212,225
Average	116,835	59,863	25,701	29,249	25,667	257,314
Prince William Sound and Resurrection Bay (July 5-Aug. 7)—						
1938	10,615	461,114	31,218	6,846	251	510,044
1939	12,390	129,491	28,756	3,858	257	174,752
1940	7,065	521,745	54,001	10,257	182	593,250
1941	7,083	217,007	73,776	6,430	100	304,396
1942	13,289	366,965	82,633	13,703	449	477,039
1943	9,285	511,818	30,620	8,237	2,595	562,555
1944	12,741	416,848	118,159	7,902	158	555,808
1945	17,382	493,482	154,080	4,941	102	669,987
1946	10,432	317,329	76,003	16,037	408	420,209
1947	16,752	380,613	64,120	7,087	162	468,734
Average	13,318	424,018	88,596	8,841	685	535,459
Copper and Bering River Area (May 1-July 5 and Aug. 10-Sept. 18)—						
1938	65,777	105	50		2,514	68,446
1939	52,285	165	4	947	2,192	55,593
1940	37,847			30,521	1,337	69,705
1941	36,868	559	20	82,563	3,067	123,077
1942	47,849	82	15	84,225	5,262	137,433
1943	57,418	54		21,783	4,893	84,148
1944	62,780			34,949	2,517	100,246
1945	70,744		39	41,064	6,037	117,884
1946	45,645			25,821	7,145	78,611
1947	30,488			22,511	3,703	56,702
Average	53,415			29,226	4,859	87,518
Yakutat Area (May 15-Sept. 30)—						
1938	27,211	7,417	397	26,854	1,450	63,329
1939	25,463	2,237	47	9,301	1,629	38,677
1940	14,947	4,962	164	27,747	511	48,331
1941	18,624	4,505	566	41,402	799	65,896
1942	11,005	2,465	10	21,513	96	35,089
1943	18,096	1,618		12,606	234	32,554
1944	15,386	3,447	3	14,301	789	33,926
1945	18,079	795	105	18,018	576	37,573
1946	4,081	1,939	23	4,056	358	10,457
1947	5,611	1,153	142	1,901	159	8,966
Average	12,251	1,790	55	10,176	423	24,695
Cape Fairweather—Dixon Entrance (July 14-Sept. 6)—						
1938	165,380	1,879,352	474,056	116,911	14,920	2,650,619
1939	169,895	1,473,121	296,057	56,935	812	1,996,820
1940	110,661	1,453,109	485,623	128,333	713	2,178,439
1941	119,235	3,636,256	319,372	152,569	1,005	4,228,437
1942	105,506	1,753,582	596,171	156,409	1,950	2,613,618
1943	67,247	1,036,821	673,692	80,928	1,626	1,860,314
1944	116,922	1,082,648	663,505	74,543	1,008	1,938,626
1945	111,717	1,040,854	266,732	90,687	1,980	1,511,970
1946	54,348	997,975	322,597	88,891	2,058	1,465,869
1947	49,695	680,432	255,143	67,146	3,972	1,056,388
Average	79,986	967,746	436,334	80,439	2,129	1,566,633
TOTAL—						
1938	2,521,233	3,232,878	786,753	222,321	43,813	6,806,998
1939	1,966,248	2,530,025	630,300	104,122	32,458	5,263,153
1940	969,742	2,922,540	874,451	276,647	25,963	5,069,343
1941	1,164,878	4,654,783	710,065	359,979	42,345	6,932,050
1942	911,323	2,815,445	941,636	362,503	44,959	5,075,866
1943	1,985,525	2,337,403	889,172	161,444	54,725	5,428,269
1944	1,581,416	2,092,632	994,487	187,499	37,025	4,893,059
1945	1,177,594	2,239,674	691,444	202,734	43,123	4,354,569
1946	1,063,067	2,051,459	616,860	190,102	39,122	3,960,610
1947	1,882,551	1,718,083	469,355	143,260	54,487	4,267,746
Average	1,538,031	2,087,850	732,264	177,008	45,696	4,580,851
Icy Strait District* (July 14-Aug. 13 and Oct. 15-Nov. 15)—						
1941	8,948	218,163	17,418	10,231	232	254,992
1942	10,964	118,790	44,834	8,311	248	183,147
1943	11,397	60,881	63,985	3,147	124	139,534
1944	21,568	123,896	67,537	3,830	77	216,908
1945	13,827	45,971	25,095	4,789	278	89,960
1946	6,315	26,449	31,376	4,436	60	68,636
1947	6,504	30,952	14,498	3,014	118	55,086
Average	11,922	57,630	40,498	3,843	131	114,025
Western District* (July 21-Sept. 6 and Oct. 15-Nov. 15)—						
1941	16,962	562,046	56,078	22,368	456	657,910
1942	15,193	339,504	130,855	26,112	71	511,735
1943	16,266	123,318	177,210	9,039	55	325,888
1944	21,771	277,172	191,816	7,384	7	498,150
1945	23,247	109,183	65,431	6,585	19	204,465
1946	14,813	81,192	74,500	6,837	479	177,821
1947	17,718	92,612	57,592	14,658	837	183,417
Average	18,763	136,695	113,310	8,901	279	277,948
Eastern District* (July 28-Sept. 6 and Oct. 15-Nov. 15)—						
1941	9,079	601,161	64,880	9,210	113	684,443
1942	8,139	254,772	74,580	12,108	271	349,870
1943	7,192	93,048	110,912	5,452	799	217,403
1944	10,905	116,501	109,884	5,384	426	243,100
1945	10,168	94,505	29,267	4,010	207	138,157
1946	6,082	29,636	21,480	4,622	122	61,942
1947	5,342	38,272	28,935	3,960	510	77,019
Average	7,938	74,392	60,096	4,686	413	147,524
Wrangell District* (Aug. 11-Sept. 6 and Oct. 15-Nov. 15)—						
1941	28,709	633,163	33,587	35,343	10	730,812
1942	22,212	167,742	67,652	42,730	895	301,231
1943	11,618½	120,730	80,696	17,431½	68	230,544
1944	16,065	59,256	66,069	9,024	17	150,431
1945	17,600	118,531	17,603	15,571	101	169,406
1946	6,417	66,258	16,017	18,894	173	107,759
1947	6,226	99,343	23,870	11,315	2,308	143,062
Average	11,585	92,824	40,851	14,447	533	160,240
So. Prince of Wales Isl. Dist.* (Aug. 18-Sept. 6 and Oct. 15-Nov. 15)						
1941	11,548	584,582	55,624	33,142	36	684,932
1942	12,091	337,418	96,628	36,901		483,038
1943	5,656	162,482	75,217	15,765	15	259,135
1944	7,790	144,209	94,371	18,775	41	265,186
1945	11,217	225,606	43,240	26,200	74	306,337
1946	6,141	203,887	67,452	17,339	1	294,820
1947	4,626	110,324	42,141	12,150		169,241
Average	7,086	169,302	64,484	18,046	26	258,944
Southern District* (July 21-Sept. 3 and Oct. 15-Nov. 15)—						
1941	42,980	1,012,240	89,384	38,747	99	1,183,450
1942	37,713	533,057	181,262	27,964	344	780,340
1943	23,660	473,156	165,752	29,054	483	692,105
1944	38,465	349,073	132,735	29,147	335	549,755
1945	33,735	418,327	77,829	30,282	591	560,764
1946	16,994	582,377	101,901	34,756	580	736,608
1947	9,279	308,929	88,107	22,049	199	428,563
Average	24,427	426,372	113,265	29,058	438	593,559

NOTE—Some discrepancies will be noted between the above figures, compiled by the U. S. Fish & Wildlife Service, and other tabulations compiled independently by **Pacific Fisherman**. Statistics for 1947 are only preliminary, as reported weekly during the season; those for previous years (except for the subdivision of Southeast Alaska) are final totals of the packs for each district, as officially published in "Alaska Fisheries and Fur-Seal Industries."

*Figures for these districts of Southeast Alaska are the provisional season totals taken from current records of the Fish & Wildlife Service. Final data for Southeast Alaska are no longer reported by subdivisions.

"**Average**" figures are for 5-year periods except on Bristol Bay, where, since the 5-year average would be misleading, a 10-year period is used.

Opening and closing dates, as indicated for the various areas, are for the 1947 season and are of general application only, taking no account of special variations for specific localities or particular types of gear.

REPEAT PERFORMANCE

A substantial business in Consumer Goods is based on repeat orders — selling the same buyers year after year.

We count ourselves fortunate in having enjoyed the confidence of the same buyers for a long time—many of them for as long as our entire business existence.

Most of the packers for whom we sell canned salmon, have entrusted us with their sales problems for a great many years too—our customers are their customers.

Seems to us we have established a rather enviable reputation built on Repeat Performance.

Exclusive Canned Salmon Distributors for

SAN JUAN FISHING & PACKING COMPANY

TODD PACKING CO.
INTERCOASTAL PACKING CO.
UGANIK FISHERIES INC.
NORTHERN COMMERCIAL CO.
PENINSULA PACKERS
EGEGIK PACKING CO.

WALTER P. SHIEL & CO.
CANNED SALMON DISTRIBUTORS

5506 WHITE-HENRY-STUART-BUILDING
SEATTLE 1, WASHINGTON

1947 -- Puget Sound Canned Salmon Pack -- 1947

	Company	Cannery Location	Sockeye			Pink			Chum			Coho or Silver			Chinook or King			Grand Total (Full Cases)	
			1-Lb. Talls	½ Lb. & ¼-Lb. Flats (48 Lbs. Net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. Net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. Net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. Net)	Total	1-Lb. Talls	½-Lb. & ¼-Lb. Flats (48 Lbs. Net)	Total		
1	Alaska Packers Association	Semiahmoo	12	451	463	34,930	189	35,119	450		450	86	927	1,013				37,045	1
2	Anacortes Canning Co.	Anacortes		338	338	13,411	9,867	23,278	30	60	90	78	1,090	1,168	4	221	225	25,099	2
3	Bugge Canning Co.	Richardson (fl.)		35	35		1,067	1,067					36	36				1,138	3
4	Burk, P. J., Packing Co.	Bellingham	82	214	296	11,379	2,398	13,777	3,203	742	3,945	21	362	383	153		153	18,554	4
5	Chase Packing Co.	Anacortes				10,525		10,525	14,949		14,949		1,662	1,662	160	98	258	27,394	5
6	Columbia River Packers Association, Inc.	Bellingham	180	355	535	37,341	17,935	55,276	19	199	218	570	1,874	2,444	137	158	295	58,768	6
7	Copalis Cannery Co.	Seattle		98	98	10,737	1,550	12,287	3,904	2,914	6,818	114	8,027	8,141		942	942	28,286	7
8	Dressel-Collins Fish Co.	Seattle					14,254	14,254		8,861	8,861		11,902	11,902				35,017	8
9	Dungeness Crab, Inc.	Anacortes		70	70		2,560	2,560		1,600	1,600		550	550				4,780	9
10	Farwest Fishermen, Inc.	Anacortes		561	561	(a)32,914	34,873	67,787	11,447	5,901	17,348	(a)1,437	4,062	5,499	3		3	91,198	10
11	Fishermen's Packing Corp.	Anacortes		1,248	1,248	58,366	46,695	105,061	12	232	244	333	7,931	8,264	15	853	868	115,685	11
12	Friday Harbor Canning Co.	Friday Harbor	(b)7	(c)293	300	(b)12,948	(c)26,241	39,189	(b)135	(c)35	170	(b)1,155	(c)1,806	2,961	(b)113	(c)261	374	42,994	12
13	Haines Oyster Co.	Seattle	157		157				1,978		1,978	105		105				2,240	13
14	Iwersen Canning Co.	Point Roberts		30	30		3,696	3,696		4	4		83	83		54	54	3,867	14
15	John Jackson Cannery	Friday Harbor		78	78		5,047	5,047		58	58		339	339		12	12	5,534	15
16	Keller Fishing & Packing Co.	Deer Harbor	37	359	396	51,708	15,270	66,978	6,612	109	6,721	287	3,172	3,459	73	279	352	77,906	16
17	Nelbro Packing Co.	Point Roberts†	18		18	5,198		5,198	11,745		11,745	110		110		2,658	2,658	19,729	17
18	Northwest Reconditioning Co.	Seattle							6,342	66	6,408		489	489		353	353	7,250	18
19	Perfection Smokery	Seattle								1,387	1,387		305	305		546	546	2,238	19
20	Point Roberts Fisheries	Point Roberts*		5	5		1,988	1,988		14	14		69	69		9	9	2,085	20
21	San Juan Fishing & Packing Co.	(Various Canneries)				164		164	2,712		2,712	368		368				3,244	21
22	Sea-Pac Company	Bellingham*	67		67	6,233		6,233	493	1,307	1,800	470	193	663		8	8	8,771	22
23	Seaview Canning Co.	Seattle*					200	200		325	325		325	325				850	23
24	Sebastian-Stuart Fish Co.	Anacortes		541	541	37,559	8,841	46,400	224	7	231	964	2,145	3,109		234	234	50,515	24
25	Smith Seafoods, Inc.	Anacortes‡		22	22		2,189	2,189		28	28		266	266		881	881	3,386	25
26	Washington Fish & Oyster Co.	Seattle, etc.		1,311	1,311	26,038	27,660	53,698	50,974		50,974	8,932	8,349	17,281	8,974	11,929	20,903	144,167	26
27	Whiz Fish Products Co.	La Conner		947	947	48,772	18,683	67,455	53		53	1,107	7,349	8,456	15		15	76,926	27
	TOTAL		**560**	**6,956**	**7,516**	**398,223**	**241,203**	**639,426**	**115,282**	**23,849**	**139,131**	**16,137**	**63,313**	**79,450**	**9,647**	**19,496**	**29,143**	**894,666**	

NOTE:—Figures above include pack from frozen salmon of 1946 catch, also from fish imported from British Columbia.

Various packs also include salmon custom-canned for account of other concerns not regularly engaged in salmon canning; the packs in such cases being credited to the plants in which they were canned, while companies having canneries of their own are credited with all salmon canned for them, regardless where packed.

Entire packs of Northwest Reconditioning Co. and Perfection Smokery were custom-canned for others. Perfection Smokery also canned some salmon which is included in that credited to other concerns listed in the table.

(a) 1-lb. Flats were canned only by Farwest Fishermen, Inc., and are included with 1-lb. Talls, as follows: Pinks, 1,439 cases; Cohoes, 216 cases.

(b) and (c) Friday Harbor Canning Co. packed some 4-lb. Flats, included with 1-lb. Talls, as follows: Sockeyes, 1 case; Pinks, 172 cases; Chums, 49 cases; Cohoes, 491 cases; Kings, 4 cases; also some ¼-lb. cans, included with Halves, as follows: Sockeyes, 157 full cases (48 lbs. net); Pinks, 581 full cases; Chums, 10 full cases; Cohoes, 288 full cases; Kings, 55 full cases.

*New cannery. †New company; pack made in plant of Iwersen Canning Co.

‡Not previously engaged in salmon canning.

1947 -- Columbia River Canned Salmon Pack -- 1947

	Company	Cannery Location	Chinook								Silverside			Blueback	Chum	Steelhead Trout				Grand Total (Full Cases)	
			Fancy and Choice				Standard and Pale														
			1-Lb. Flats and Talls	½-Lb. Flats (8 doz.)	¼-Lb. Flats (48 lb. net)	Total	1-Lb. Flats and Talls	½-Lb. Flats (8 doz.)	¼-Lb. Flats (48 lb.)	Total	1-Lb. Talls	½ and ¼-Lb. Flats (48 lbs. net)	Total	½ and ¼-Lb. Flats (48 lbs. net)	1-lb. Talls & ½-lb. Flats (48 lbs. net)	1-Lb. Talls	½-Lb. Flats (8 doz.)	¼-Lb. Flats (48 lb.)	Total		
1	Barbey Packing Co.	Astoria, Ore.		5,846		5,846		352		352		698	698	107			1,111		1,111	8,114	1
2	Chinook Packing Co.	Chinook, Wash.		7,934		7,934		988		988	53	2,741	2,794	480	91		787		787	13,074	2
3	Columbia River Packers Association	Astoria, Ore.	9,814	65,478	1,695	76,987	12,241	11,044	1,253	24,538		23,191	23,191	3,320	3,349		6,350	2,424	8,774	140,159	3
4	Columbia River Salmon Co.	Astoria, Ore.		10,926	3,068	13,994		179		179		1,162	1,162	216	1,030		160		160	16,741	4
5	Keystone Packing Co.	Ilwaco, Wash.		6,000		6,000	300	1,250		1,550	200	1,337	1,537	5	2,050					11,142	5
6	New England Fish Co.	Astoria, Ore.		7,622		7,622		3,445		3,445		1,230	1,230	359			844		844	13,500	6
7	Paragon Packing Co.	Astoria & Portland Ore.		10,836	500	11,336		4,747	12	4,759	157	1,493	1,650	5,008	1,836		951		951	25,540	7
8	Point Adams Packing Co.	Hammond, Ore.	1,021	11,864	135	13,020	226	1,784	43	2,053		1,501	1,501	1,910	2,171		793	531	1,324	21,979	8
9	Portland Fish Co.	Portland, Ore.		14,178		14,178		3,237		3,237		3,402	3,402	1,415	4,742		3,234		3,234	30,208	9
10	Seufert Bros. Co.	The Dalles, Ore.	6,261	5,415		11,676	206	375		581				537		1,325	1,609		2,934	15,728	10
11	Union Fishermen's Co-op Pack. Co.	Astoria, Ore.	6,495	26,804	964	34,263	2,003	3,777		5,780	334	5,290	5,624	1,722	1,852		1,880		1,880	51,121	11
	TOTAL		**23,591**	**172,903**	**6,362**	**202,856**	**14,976**	**31,178**	**1,308**	**47,462**	**744**	**42,045**	**42,789**	**15,079**	**17,121**	**1,325**	**17,719**	**2,955**	**21,999**	**347,306**	

NOTE.—Oval cans, packed by a few companies, are included with 1-lb. or ½-lb. Flats.

Quarter-pound cans of some species, included with ½-lb. Flats on basis of 48 lbs. per case, were packed as follows: Silversides, 11,237 full cases by C.R.P.A.; 195 by Point Adams, and 1,897 by Union Co-Op.; Bluebacks, 3,006 full cases by C.R.P.A., 387 by Point Adams, and 98 by Union Co-Op.

Of Chinooks in 1-lb. Talls, included with Flats, 499 cases fancy and 7,667 standard were packed by C.R.P.A., and 6,261 cases fancy and 206 standard by Seufert Bros.

The Chum pack was all in Halves EXCEPT 91 cases in Talls by Chinook; 2,319 cases by C.R.P.A.; 1,700 by Keystone; 555 by Paragon, and 2,171 by Point Adams.

Included in this table are a few Alasks Reds, Chums and Silvers brought from Bristol Bay and canned on the Columbia River.

ARTHUR ANDERSON
President and General Manager

Specializing in the Packing of
BLUE LETTER "A" SALMON and TUNA

Quality Seafoods from the Columbia River

MODERN STREAMLINED CANNERIES AT ASTORIA, OREGON, AND ILWACO, WASHINGTON

Featuring the Production of

FANCY COLUMBIA RIVER CHINOOKS
SPRING PACK OCEAN CAUGHT COHOES
OREGON WHITE MEAT TUNA
CANNED DEEP SEA ROCKFISH
KIPPERED STURGEON for HORS D'OEUVRE
MILD CURED and FROZEN SALMON
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ARTHUR ANDERSON'S
COLUMBIA RIVER SALMON CO., INC.
ASTORIA, OREGON

EXCLUSIVE SELLING AGENTS: McGOVERN & McGOVERN, SEATTLE 4, WASHINGTON

Puget Sound made the largest pack since 1931. It consisted mainly of Pinks, reflecting a building-up in the last two cycles of both Fraser River and local runs.

There were scarcely any Sockeyes, and runs of other species in Sound waters were light; but economic factors resulted in canning of troll-caught fish, frozen salmon from the 1946 catch, and Chums from British Columbia, raising the packs of those species to an unusual level.

Puget Sound in 1947 made the largest canned salmon pack in 16 years, producing almost 900,000 cases—an output exceeded only 13 times in past history, between 1899 and 1931. The total was more than 2½ times that of 1946, and 3½ times the recent average.

The increase over recent years was striking in every species but Sockeyes which, with a very small run and strict protective regulation, fell to the lowest level since early times. Most notable, however, was the heavy and long-continued run of Pinks, which lasted from Aug. 18 to Oct. 3, and for three weeks in September compared well with many big years of the past.

The Pink pack, greatest since 1931, was more than double that of the cycle-year 1945, and has been exceeded only five times. It made up over 71% of the Puget Sound total.

Chums made the highest figure since 1942, about three times that of 1946; and Cohoes showed a ten-fold increase over the previous year, almost three times the recent average. Chinooks made the largest pack in 18 years.

Heavy Pink Run Through September

For protection of the Sockeyes, Puget Sound waters were closed until Aug. 18, and delay in reaching agreements with the unions prevented Cape Flattery fishing until the end of July, too late for the early Cohoes.

Pinks at the start were running in small numbers, but increased steadily to great volume by mid-

1947 -- Canned Salmon Pack of Coastal Areas -- 1947

	Company	Cannery Location	Blue-back	Chinook			Silver			Chum			Steel-head	Grand Total (Full Cases)	
	WASHINGTON		½-Lb. Flats (8 doz.)	1-Lb. Talls	½ & ¼-Lb. Flats (48 Lbs. Net)	Total	1-Lb. Talls	½ & ¼-Lb. Flats (48 Lbs. Net)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	½-Lb. Flats (8 doz.)		
1	Aberdeen Seafoods, Inc.(a)	Aberdeen					150		150	263		263		(a)**413**	1
2	Crown Packers, Inc.	Hoquiam			120	120		1,384	1,384					**1,504**	2
3	Edney & Parks	Copalis Beach(b)									202	202		**202**	3
4	Halferty, G. P., & Co.	Aberdeen	4,784											**4,784**	4
5	Kaakinen Fish Co.	Westport			141	141		987	987	1,320		1,320		**2,448**	5
6	Mohawk Packing Co.	Moclips	5,266	37		37	111		111	629		629		**6,043**	6
7	Red Salmon Canning Co.	Aberdeen(c)		1,566		1,566	8,891		8,891	(d)4,421		4,421		**14,878**	7
8	Strand Fisheries Co.	Aberdeen	2,400											2,400	8
9	Washington Fish Co.	Aberdeen			50	50		300	300		50	50		**400**	9
10	West Coast Fish Co.	Aberdeen								2 500		2,500		**2,500**	10
	Miscellaneous				1,100	1,100		1,200	1,200	500	175	675		(e)**2,975**	
	Total Washington Coast		**12,450**	**1,603**	**1,411**	**3,014**	**9,152**	**3,871**	**13,023**	**9,633**	**427**	**10,060**		**38,547**	
	OREGON AND CALIFORNIA														
1	Yaquina Bay Fish Co.	Newport, Ore.			(f)7,383	7,383		(f)8,294	8,294				85	**15,762**	1
2	Tom Lazio Fish Co.	Eureka, Calif.			3,000	3,000		794	794					**3,794**	2
3	Princeton Packers	Princeton, Calif.		1,814	(g)8,309	10,123								**10,123**	3
	Total Oregon and California			**1,814**	**18,692**	**20,506**		**9,088**	**9,088**				**85**	**29,679**	
	TOTAL WASH.-OREGON-CALIF. COAST		**12,450**	**3,417**	**20,103**	**23,520**	**9,152**	**12,959**	**22,111**	**9,633**	**427**	**10,060**	**85**	**68,226**	

NOTES:—(a) Pack made by Ed Lenss in leased cannery of Aberdeen Seafoods, Inc.; figures are approximate only. (b) Packed in cannery leased from Walter Plumb. (c) Red Salmon Canning Co.'s Aberdeen pack made through Deep Sea Products Co., subsidiary. (d) Includes 26 cases of Pinks, fish brought from Puget Sound. (e) Estimated output of two canneries whose packs were not reported. (f) Quarter-pound cans packed only by Yaquina Bay Fish Co., as follows: 5,054 full cases (48 lbs. net) of Chinooks, and 7,738 full cases of Silvers. (g) Includes 7,520 cases of 1-lb. Ovals and 789 full cases of ½-lb. Flats.

September, reaching a peak in the latter part of the month. They were widely distributed all over the Sound, though daily catches fluctuated considerably because of spells of wind and fog. Notably heavy catches were made for a time from local runs in the Port Susan district.

The Point Roberts district was closed Oct. 3 to 13. By that time the main Pink run had left other Sound waters. Few were taken after that, and many canneries closed.

Canning capacity was considerably increased over the previous year, and at least 25 plants (some of them quite small) were in operation. Thus there was never any real congestion or difficulty in handling the catch, though for several weeks many canneries ran overtime.

Pinks opened at an agreed price of 8c per lb., but jumped to 12c, advancing later to over 16c; and at times they were bought per fish at 75c, 85c, and even higher.

Some Unusual Factors

Packing of Chums, Cohoes and Chinooks was affected by several unusual factors—a slump in frozen fish through the spring; a sharp upturn in freezer demand in the fall; and changing Canadian embargoes on export of raw fish, combined with much higher prices prevailing on the Sound than in British Columbia.

These conditions resulted, first, in the canning of substantial quanities of frozen salmon (mainly Cohoes and Chums) held over from the 1946 catch, which continued from midwinter until fall; second, in considerable canning of troll-caught Cohoes, mostly in June—including a good many from British Columbia until June 27, when the embargo went on. Third, the renewed freezer demand absorbed practically all of the Puget Sound fall Cohoes and Chums, of which the run was very light.

Many Chums from Canada

Fourth and most notable, lifting of the Canadian embargo Oct. 15 brought most of the British Columbia fall Chum catch to Puget Sound canneries, where this item probably

Puget Sound Canned Salmon Pack, 1888 to 1947

Puget Sound salmon canning commenced in 1877 with a pack of 5,500 cases, but no segregation by species is available prior to 1889. From the beginning production increased, with much fluctuation, to 22,000 cases in 1887; the average for intervening years being 7,867 cases. Values shown are based on opening prices. "Average" figures at bottom of table are for ten years prior to 1947.

Year	No. of Plants Operated	Sockeye		Pink		Chum		Coho		Chinook		Steelhead		Total		Year
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	4	....	....	....	....	....	....	....	....	....	....	....	....	21,975	$126,356	1888
1889	2	....	....	2,809	$7,584	1,145	$3,435	7,480	$37,400	240	$1,200	....	....	11,674	49,619	1889
1890	1	....	....	....	....	4,000	12,000	3,000	15,000	1,000	5,000	....	....	8,000	32,000	1890
1891	2	5,538	$24,921	5,647	15,246	3,093	10,825	5,869	19,368	382	2,101	....	....	20,529	72,461	1891
1892	2	2,954	11,816	....	....	16,180	56,630	7,206	24,500	86	473	....	....	26,426	93,419	1892
1893	3	47,852	103,371	17,530	47,331	11,380	31,295	11,812	59,060	1,200	6,480	....	....	89,331	247,537	1893
1894	3	41,781	188,014	9,049	24,432	22,152	60,918	22,418	89,672	....	....	....	....	95,400	363,036	1894
1895	7	65,143	273,108	23,633	62,556	38,785	94,741	50,865	154,218	1,542	7,325	....	....	179,968	591,948	1895
1896	11	72,979	350,299	....	....	26,550	73,013	82,640	264,448	13,495	67,475	....	....	195,664	755,235	1896
1897	12	312,048	1,248,192	57,268	171,804	23,310	64,103	91,900	282,133	9,500	39,045	....	....	494,026	1,805,277	1897
1898	18	252,000	1,058,400	....	....	38,400	105,600	98,600	335,240	11,200	50,624	....	....	400,200	1,549,864	1898
1899	19	499,646	2,368,334	252,733	734,241	31,481	86,427	111,387	418,176	24,364	103,180	....	....	919,611	3,170,358	1899
1900	19	228,704	1,149,000	....	....	89,100	245,025	128,200	512,800	22,350	134,100	....	....	469,450	1,940,925	1900
1901	..	1,105,096	....	275,494	....	....	....	....	....	....	....	....	....	1,380,590	....	1901
1902	21	339,556	2,047,655	....	....	93,492	467,460	85,817	429,085	30,049	150,245	....	....	548,914	3,094,445	1902
1903	22	167,211	1,003,260	181,236	407,984	12,001	30,002	103,450	413,800	14,500	72,500	....	....	478,398	1,929,546	1903
1904	13	123,419	653,871	....	....	49,656	124,254	118,127	447,851	14,441	69,352	....	....	305,643	1,295,328	1904
1905	24	847,122	4,952,718	70,992	212,976	41,057	102,643	79,335	337,174	1,804	9,922	....	....	1,040,310	5,615,433	1905
1906	16	182,241	1,251,236	....	....	149,218	708,781	94,497	472,485	8,139	48,834	....	....	430,602	2,481,336	1906
1907	14	93,122	698,416	433,423	1,300,269	50,249	150,847	119,472	476,288	1,814	16,326	....	....	698,080	2,642,146	1907
1908	22	170,951	1,196,657	6,075	18,225	47,607	142,821	128,922	644,922	95,210	666,470	....	....	448,765	2,669,095	1908
1909	11	1,097,904	6,183,300	370,993	902,342	53,688	128,916	143,133	630,446	13,019	72,604	....	....	1,632,949	7,917,608	1909
1910	24	248,014	1,673,095	108	388	146,942	514,297	162,755	895,153	10,064	60,324	....	....	567,883	3,143,256	1910
1911	15	127,761	1,168,145	1,046,992	4,302,344	104,321	392,122	256,124	1,591,185	21,823	172,582	....	....	1,557,021	7,727,524	1911
1912	20	184,680	1,660,173	700	2,185	60,760	154,193	149,727	761,200	20,252	101,706	....	....	416,125	2,679,457	1912
1913	22	1,673,099	10,871,178	791,886	2,092,401	56,225	124,970	61,019	235,372	1,234	5,247	....	....	2,583,463	13,329,168	1913
1914	31	335,230	3,208,969	892	4,212	278,801	955,920	151,893	759,689	26,044	167,322	....	....	792,860	5,095,839	1914
1915	41	64,584	676,769	583,649	1,795,285	411,724	155,744	180,783	902,335	28,466	145,555	....	....	1,269,206	4,675,418	1915
1916	32	84,637	699,161	1,887	8,264	427,878	1,492,161	155,832	957,650	37,030	280,708	....	....	707,278	3,437,944	1916
1917	45	411,538	5,366,218	1,124,884	7,823,960	216,285	1,362,634	114,276	1,065,983	57,543	540,904	....	....	1,921,554	16,159,699	1917
1918	32	50,723	781,992	6,605	53,336	267,538	1,715,159	235,860	2,532,553	63,366	753,026	106	$1,611	624,198	5,837,677	1918
1919	35	64,346	1,186,413	421,215	3,854,113	525,541	1,687,787	210,883	2,618,504	68,542	829,384	5,076	81,584	1,295,626	12,257,785	1919
1920	11	62,654	1,725,252	4,669	28,860	48,849	3,225,368	24,502	221,688	25,846	370,215	....	....	166,520	2,571,385	1920
1921	23	102,967	1,991,368	404,713	1,870,385	30,831	123,608	89,412	798,541	25,567	199,609	....	....	653,490	4,983,511	1921
1922	16	48,566	945,178	2,225	13,273	65,552	283,395	111,771	744,656	20,615	222,641	....	....	248,729	2,209,143	1922
1923	18	47,402	860,000	475,849	2,429,800	97,081	471,790	122,000	785,000	15,777	150,233	29	174	758,138	4,696,997	1923
1924	12	69,369	1,182,358	5,945	39,192	134,360	651,014	87,879	688,950	19,968	215,019	128	1,024	317,649	2.777,557	1924
1925	23	112,023	2,098,683	553,904	3,179,302	43,345	207,546	173,215	1,902,289	29,061	430,641	122	1,708	911,670	7,820,169	1925
1926	14	44,673	532,408	2,107	15,095	112,204	573,411	123,469	1,163,286	27,859	364,610	113	1,216	310,425	2,650,026	1926
1927	21	97,594	2,115,410	578,923	3,669,941	38,129	225,654	135,802	1,358,020	41,716	587,258	80	1,056	892,244	7,957,339	1927
1928	14	60,081	1,207,981	5,597	41,091	146,356	833,114	89,923	777,472	23,153	291,943	266	2,873	325,376	3,154,024	1928
1929	22	111,898	2,203,496	727,621	4,639,076	156,683	911,584	101,635	1,044,372	33,720	436,181	287	3,597	1,131,844	9,238,306	1929
1930	12	352,194	4,890,921	3,712	18,486	64,234	237,123	122,691	1,240,876	29,378	403,466	397	4,446	572,606	6,795,318	1930
1931	18	83,728	1,316,348	705,580	2,486,377	55,189	177,000	76,025	569,699	28,066	290,579	293	2,443	948,881	4,842,446	1931
1932	10	78,319	897,006	1,677	5,779	146,151	381,116	60,740	330,385	23,964	168,193	60	432	310,911	1,782,912	1932
1933	19	125,738	1,340,000	543,340	2,643,528	37,039	171,742	44,568	292,684	20,869	220,000	222	1,776	771,776	4,669,910	1933
1934	21	340,787	3,632,587	3,296	17,331	72,841	251,991	69,080	517,901	14,089	74,024	....	....	500,093	4,493,834	1934
1935	14	51,714	720,076	369,620	1,652,161	15,636	68,402	70,514	534,956	9,243	91,396	....	....	516,727	3,066,991	1935
1936	9	60,063	813,510	1,152	7,598	86,070	315,465	30,568	292,528	4,708	43,427	....	....	182,561	1,472,528	1936
1937	13	56,983	925,160	327,973	1,676,692	18,759	91,696	31,747	323,976	6,412	76,750	....	....	441,874	3,094,274	1937
1938	13	139,152	1,824,396	455	2,641	7,697	32,193	10,268	100,753	2,371	36,800	....	....	159,943	1,996,783	1938
1939	14	43,561	669,202	282,271	1,574,317	15,080	76,786	54,905	485,760	2,446	33,508	....	....	398,263	2,839,573	1939
1940	9	62,748	1,122,684	2,947	17,432	23,405	114,798	30,654	231,878	1,674	15,734	....	....	121,428	1,502,526	1940
1941	9	110,758	2,140,457	153,924	1,203,657	25,423	187,224	46,213	553,230	4,769	62,354	....	....	341,087	4,146,922	1941
1942	10	258,488	5,255,888	851	7,965	2,223	17,748	6,862	97,693	1,204	26,389	....	....	269,628	5,405,683	1942
1943	10	19,149	424,339	62,129	637,730	243	2,432	26,292	390,847	2,864	12,456	....	....	110,677	1,467,804	1943
1944	3	37,214	830,719	299	3,313	....	....	373	5,883	1,064	21,240	....	....	38,950	861,155	1944
1945	6	53,532	1,176,467	305,245	2,724,176	1,184	12,467	18,802	258,076	3,639	63,511	....	....	382,402	4,234,697	1945
1946	20	271,311	10,108,350	91	2,184	47,099	989,079	7,118	163,714	6,496	259,840	345	8,280	332.460	11,531.447	1946
1947	25	7,516	315,956	639,426	13,423,416	139,131	2,532,194	79,450	2,254,404	29,143	875,098	....	....	894,666	19,401,068	1947
Avg.	..	**105,290**	**2,447,766** 10	**113,618**	**785,011**	**14,111**	**152,442**	**23,323**	**261,181**	**3,294**	**60,858**	**35**	**828**	**259,671**	**3,703,036**	**Avg.**

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accounted for more than half of the Chum pack. The embargo on Pinks came off Sept. 25, and some were brought over; but available records fail to indicate any large-scale canning of Canadian Pinks on the Sound. The Chums imported consisted largely of fine bright fish from the Johnstone Strait and Nitinat districts.

Definite quanities are unknown, but the pack from British Columbia fish appears to have been, roughly, around 100,000 cases; and that from 1946 frozen fish (mostly Chums and Cohoes, perhaps some Chinooks) almost as much.

A number of canneries in this district had an exceptionally long season—starting early in the year on frozen fish, and continuing on Canadian Chums to the end of November.

August Run on Columbia Yields Good Return

The Columbia River enjoyed a heavy August run of Chinooks which, with a good return of Bluebacks and normal production in other lines, gave this district the largest pack since 1942—though the total was not much above the recent average, being about halfway between the 1946 and 1942 figures.

The spring Chinook season opened slightly ahead of the previous year, but catches soon fell off, with an unusually heavy freshet; and there was no production worth mentioning for a month after the June 10 reopening. Bluebacks, however, showed up early, with the best run in five years, and made a pack slightly above the ten-year average—gaining nearly 5,000 cases over 1946.

Chinooks picked up well in the latter part of July, being more plentiful than for several years; and from mid-August to the Aug. 26 close the run was really heavy, with catches running ahead of normal canning capacity. There was no congestion, however, as little tuna was coming in at the time, and considerable salmon was put in cold storage for canning during the closed season.

Fall Pack Is Light

The fall season opened with two days of good catches, but very little was canned after that, with most of the small catch taken by the fresh fish market at high prices. The August Chinooks were of excellent quality, grading mostly fancy; and those caught in September were reported better than usual.

The Chum run was late and highly disappointing, although the pack was about even with 1946—considerably better than for the three preceding years. With a curtailed fresh-fish demand through the early part of the season, about six times as many Silversides went into cans as the previous year, making the best pack since 1940. The Steelhead pack also was about normal, and the largest in several years.

Fish prices advanced sharply, spring Chinooks and Bluebacks bringing 23c per lb. and Steelheads 13½c, while cannery workers received a 12c boost in hourly wages and other concessions. August Chinooks were bought at 22c per lb. to the 10th and 18½c later, and fall Chinooks were bid up to 16c per lb.

Good Pack Along Coast

Considerable canning was again done in the Grays Harbor district, where the best run of Quinault Bluebacks in a number of years, together with a rather large output of Silvers in one cannery, raised the total somewhat above the 1946 figure.

Runs of Chums were highly disappointing all along the Oregon-Washington coast, and only one Oregon coast plant reported a salmon pack, which was considerably smaller than the previous year's. An unusual feature was canning in California for the first time in many years—troll-caught Chinooks and Silvers being put up by the Tom Lazio Fish Co., Eureka, and the Princeton Packers near Halfmoon Bay. This fully balanced the Oregon shortage, giving these coastal areas a grand total somewhat greater than the previous year—the largest since 1929, and about three times the recent average.

1947 Canned Salmon Pack of Alaska Packers Association

District and Cannery Location	Red or Sockeye			Pink	Chum	Coho			King or Chinook	Grand Total (Full Cases)
	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Talls	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	
BRISTOL BAY:										
Nushagak	40,234	....	40,234	....	4,330	199	....	199	619	45,382
Kvichak	155,617	....	155,617	....	1,710	....	....	....	260	157,587
Naknek	134,607	....	134,607	....	1,986	....	....	....	113	136,706
Egegik	35,200	....	35,200	....	1,535	161	....	161	16	36,912
Ugashik	28,195	....	28,195	....	593	63	....	63	4	28,855
Total Western Alaska	**393,853**	....	**393,853**	....	**10,154**	**423**	....	**423**	**1,012**	**405,442**
CENTRAL ALASKA:										
Chignik	78,043	5,048	83,091	16,889	4,588	307	....	307	97	104,972
Karluk	1,494	396	1,890	39,201	3,416	116	....	116	....	44,623
Alitak	2,913	....	2,913	18,947	321	57	....	57	....	22,238
Total Central Alaska	**82,450**	**5,444**	**87,894**	**75,037**	**8,325**	**480**	....	**480**	**97**	**171,833**
TOTAL ALASKA	**476,303**	**5,444**	**481,747**	**75,037**	**18,479**	**903**	....	**903**	**1,109**	**577,275**
PUGET SOUND:										
Semiahmoo	12	451	463	35,119*	450	86	927	1,013	....	37,045
GRAND TOTAL	**476,315**	**5,895**	**482,210**	**110,156**	**18,929**	**989**	**927**	**1,916**	**1,109**	**614,320**

NOTE:—Where the above tabulation covers joint operations, the figures are for the Alaska Packers Association's share only. Through joint operations the Ugashik pack was made in plant of L. G. Wingard Packing Co.; that at Alitak in plant of Pacific American Fisheries, Inc. The Alaska Packers Association cannery at Egegik also canned fish for Libby, McNeill & Libby, and that at Chignik for Pacific American Fisheries, Inc.

*Includes 189 full cases of ½-lb. Flats, Pinks.

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British Columbia's Sockeye pack fell short, owing mainly to the small run and protective restriction on the Fraser River. Pinks were scarce in the north, but the big Fraser River run brought the total to better than average.

Chums were plentiful, but most of the fall catch was diverted to Puget Sound.

As expected on the basis of past cycles, British Columbia's Pink pack bulked large while that of Sockeyes was scant. The grand total fell slightly below the ten-year average and short of 1945 by 234,597 cases or 13½%, but gained nearly 160,000 cases over 1946 and was well ahead of 1944 or 1943.

Sockeyes came to little over half the big 1946 pack and about ¾ of the average, though well ahead of some recent years. About half of them came from the "central areas": the Naas and Skeena falling short, while Rivers and Smiths inlets had a notably heavy run.

A good many were canned on the Fraser River, though few were caught in that district: its production being held to insignificant figures—in sharp contrast to the previous year—by a very small return from the 1946 spawning, with protective closure by the International Sockeye Commission until Sept. 8 on the river and Aug. 18 around the south end of Vancouver Island.

Cohoes, despite a 45% increase over the previous year, made an exceptionally small pack—the smallest but three in 23 years. Springs also were very short, though ahead of 1946; while Steelheads did better than usual.

1947 -- British Columbia Canned Salmon Pack -- 1947

DISTRICTS AND CANNERIES OPERATED	NUMBER CANNERIES OPERATED	SOCKEYE (Full Cases)	PINK (Full Cases)	CHUM (Full Cases)	COHO (Full Cases)	BLUE-BACK (Full Cases)	SPRING (Full Cases)	STEEL-HEAD (Full Cases)	**Grand Total (Full Cases)**
District No. 1 (Fraser River and Howe Sound) Anglo-B. C. Packing Co., Ltd.—"Phoenix" British Columbia Packers, Ltd.—"Imperial" Canadian Fishing Co., Ltd.—"Home" Colonial Packers, Ltd.—"Colonial" Great West Packing Co., Ltd.—"Great West" Johnston Fishing & Packing Co., Ltd.—"Glen Rose" Francis Millerd & Co., Ltd.—"Great Northern" National Fisheries, Ltd.—"National" Nelson Bros. Fisheries, Ltd.—"St. Mungo" North Shore Packing Co., Ltd.—"North Shore" Queen Charlotte Fisheries, Ltd.—"Bidwell Street" Tulloch Fisheries, Ltd.—"Tulloch"	12	91,544	365.862	97,971	58,223½	4,504	5,120½	268	623.493
Skeena and Naas River Areas Anglo-B. C. Packing Co., Ltd.—"North Pacific" British Columbia Packers, Ltd.—"Sunnyside" Canadian Fishing Co., Ltd.—"Carlisle" Cassiar Packing Co., Ltd.—"Caspaco" Francis Millerd & Co., Ltd.—"Seal Cove" Nelson Bros. Fisheries, Ltd.—"Prince Rupert" J. H. Todd & Sons, Ltd.—"Inverness"	7	65,299	47,514	87,216	35,430½	....	2,626	2,214	240.299½
Central Areas and Rivers Inlet British Columbia Packers, Ltd.—"Namu" Canadian Fishing Co., Ltd.—"Tallheo," "Butedale" and "Goose Bay" J. H. Todd & Sons, Ltd.—"Klemtu"	5	102,337	76,511	238,283	24,233	....	818	668	442,850
District No. 3 (Vancouver Island, etc.) Anglo-B. C. Packing Co., Ltd.—"Knight Inlet" British Columbia Packers, Ltd.—"Kildonan" Canadian Fishing Co., Ltd.—"Bones Bay" Francis Millerd & Co., Ltd.—"Redonda Bay" Nelson Bros. Fisheries, Ltd.—"Ceepeecee" J. H. Todd & Sons, Ltd.—"Empire"	6	27,105	109,325	37,529	22,597	41	1,391	84	198,072
GRAND TOTAL	30	286,285	599,212	460,999	140,484	4,545	9,955½	3,234	1,504,714½

NOTE:—The figures tabulated are preliminary statistics, based on weekly compilations by the Canadian Fisheries Department; they are subject to some later correction. Figures on quantities canned in the various styles of packages in British Columbia are not now available.

Since the packs of individual cannieries are not available for publication, the output of Rivers Inlet is combined with that of the "Central Area" of District No. 2, as only one cannery was operated on Rivers Inlet, and none in the Queen Charlotte Islands.

"District No. 1" in the tabulation includes the Fraser River, Howe Sound and waters around the mouth of the Fraser River. The "Central Areas" include all canneries on the mainland north of Rivers Inlet and south of the Skeena River area. "District No. 3" includes all of Vancouver Island and adjacent mainland between Cape Caution and Gower Point.

Figures represent all salmon CANNED in the several districts, regardless where caught.

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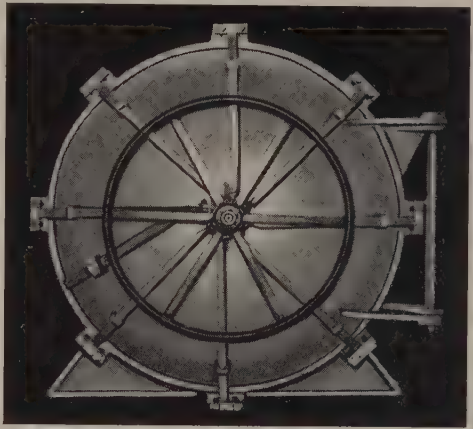

The mechanism of the Acme Safeway Retort Door is so constructed that steam pressure is released before the door can be opened, thereby assuring absolute safety to the operator.

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Pink Pack Is Large, But Short of Cycle-Year

The Pink pack, though exceeded only six times in the past—only twice since 1930—and more than five times the previous year's small output, looked small compared with the cycle-year 1945, falling short of it by 226,300 cases or 27½%.

Probably almost ¾ of the Pinks came from the Fraser River run; 61% of the total being packed on the Fraser, and 18% in the adjoining District 3. All the northern areas fell down badly—increasing somewhat over the previous year, but making only a fraction of a normal output, so that the final total was rather disappointing.

The Fraser Pink run appeared in mid-August around both north and south ends of Vancouver Island and increased steadily for at least a month, with heavy catches at first in the Johnstone Strait district and off the southwest coast and, after the Aug. 18 opening, in Sooke and south Gulf of Georgia waters. No great numbers appeared to be entering the Fraser prior to the opening of the river Sept. 8.

The run continued in great volume till late in September but, though the season continued to Oct. 3, packing chopped off abruptly about Sept. 25, after which very few Pinks were canned. This was attributed partly to rapid deterioration of quality in the late fish, and may also have been due to curtailment of British purchases and lifting of the export embargo. The river reopened Oct. 14, but by then most of the Pinks had passed.

Fall Pack Restricted

Chums started out extremely well, with an excellent run in practically all areas except the Queen Charlotte Islands, and a big pack was made in the north. Fall packing in the south, however, was limited by the cut in exports to Britain which, together with lifting of the raw-fish export embargo and high prices in the United States, diverted a great part of the catch to Puget Sound canneries. Thus the fall pack was one of the smallest on record.

Approximate Pack of Canned Salmon in British Columbia Later Than Mid-October in Recent Years

Year	*Grand Total*	*Chums*	*Cohoes*
1947 (10/11)	57,775	51,051	5,804
1946 (10/12)	143,342	138,699	5,226
1945 (10/13)	72,000	56,000	10,000
1944 (10/14)	34,000	25,000	10,000
1943 (10/ 9)	139,000	131,000	5,000
1942 (10/10)	350,000	324,000	11,000
1941 (10/11)	454,000	435,000	15,000
1940 (10/12)	242,000	213,000	20,000
1939 (10/14)	167,000	145,000	12,000
1938 (10/15)	198,000	175,000	10,000

The Chum total consequently fell some 112,000 cases or 20% below that of 1946 and, though well above the three previous years, was 10% short of the ten-year average.

Canada maintained an embargo on export of raw salmon (except Springs) from June 27 to Sept. 25, when it was withdrawn as to Pinks; being lifted on other species Oct. 15. With British imports closely restricted and high prices for canned salmon in the United States, whose market is not readily available as an outlet for the Canadian pack because of the 25% tariff, British Columbia canners fear that the bulk of the 1948 catch in the province will be diverted from them to Puget Sound and Alaska plants.

British Columbia Canned Salmon Pack -- 1903 to 1947

Year	Sockeyes Fraser River	Sockeyes Other Districts	Total Sockeyes	Red Springs	Pink Springs	White Springs	Total Springs	Cohoes and Blue-Backs	Steel-heads	Pinks	Chums	Total Cases	Year
1903	204,809	163,908	368,717	25,657			25,657	51,918		27,382		473,674	1903
1904	72,688	250,536	323,226	38,675			38,675	66,351			37,642	465,894	1904
1905	837,489	243,184	1,080,673	28,359			28,359	44,458		13,970		1,167,460	1905
1906	183,007	276,672	459,679	31,261		1,083	32,344	69,132		68,035		629,460	1906
1907	59,815	254,259	314,074	23,159		2,939	26,098	87,900	683	118,704		547,459	1907
1908	63,126	291,897	355,023	25,433		2,731	28,164	81,917	1,137	76,448		542,689	1908
1909	542,248	298,193	840,441	18,218		799	19,017	61,918		46,544		967,920	1909
1910	133,045	432,870	565,915	19,313		9,476	28,789	74,382	140	34,613	58,362	762,201	1910
1911	58,487	325,022	383,509	38,751		9,705	48,456	119,702	100	305,247	91,951	948,965	1911
1912	108,784	335,778	444,762	62,345		18,092	80,437	165,102	207	247,743	58,325	996,576	1912
1913	684,596	287,582	972,178	37,433		3,616	41,049	69,822		192,887	77,965	1,353,901	1913
1914	185,483	351,213	536,696	32,908		16,420	49,328	120,201		220,340	184,474	1,111,039	1914
1915	89,040	387,002	476,042	51,734		6,370	58,104	146,956	2,927	367,352	82,000	1,133,381	1915
1916	27,394	187,395	214,789	51,231		15,495	66,726	183,623	9,082	280,644	240,201	995,065	1916
1917	123,614	116,234	339,848	48,630		27,646	76,276	157,589	11,740	496,749	475,273	1,497,475	1917
1918	16,849	259,610	276,459	65,535		41,819	107,354	191,068	15,916	527,745	497,615	1,616,157	1918
1919	29,628	339,817	369,445	73,179	9,077	18,295	100,551	199,993	4,493	346,639	372,035	1,393,156	1919
1920	44,598	306,807	351,405	95,983	8,441	13,877	118,301	120,033	2,395	520,856	84,626	1,187,616	1920
1921	35,900	128,014	163,914	36,725	6,061	6,966	49,752	124,348	1,220	192,906	71,408	603,548	1921
1922	48,744	250,870	299,614	21,163	.11,913	6,520	39,596	109,276	1,657	581,979	258,204	1,290,326	1922
1923	29,423	305,224	334,647	17,539	4,858	4,745	27,142	119,141	1,760	440,932	418,055	1,341,677	1923
1924	36,200	333,403	369,603	17,659	3,355	6,442	27,456	119,989	1,811	657,538	568,916	1,745,313	1924
1925	31,523	361,120	392,643	39,142	4,419	29,938	73,499	199,180	1,996	445,400	607,904	1,720,622	1925
1926	83,589	253,406	336,995	41,276	4,177	23,736	69,189	181,894	2,165	772,993	701,962	2,065,198	1926
1927	57,085	250,947	308,032	34,029	8,819	16,129	58,977	181,968	1,746	247,617	562,109	1,360,449	1927
1928	26,530	177,011	203,541	11,002	2,328	5,526	18,856	156,757	865	792,362	863,256	2,035,637	1928
1929	60,407	220,899	281,306	8,295	3,156	7,926	19,377	196,444	672	477,969	424,982	1,400,750	1929
1930	107,896	369,782	477,678	20,184	6,650	11,970	38,804	190,594	1,656	1,111,937	401,114	2,221,783	1930
1931	54,688	236,776	291,464	17,526	4,727	4,894	27,147	102,175	1,326	206,995	55,997	685,104	1931
1932	83,447	200,908	284,355	46,953	14,133	14,974	76,060	188,971	1,168	223,716	306,761	1,081,031	1932
1933	53,481	204,626	258,107	12,464	1,849	5,953	20,266	159,052	1,459	532,558	293,630	1,265,072	1933
1934	145,579	232,303	377,882	15,281	1,644	12,859	29,784	225,430	1,282	435,364	513,184	1,582,926	1934
1935	76,415	274,029	350,444	10,187	3,114	8,619	21,920	231,492	596	514,966	409,604	1,529,022	1935
1936	165,651	249,373	415,024	16,493	2,527	10,834	29,854	246,061	1,068	591,532	597,487	1,881,026	1936
1937	103,137	222,637	325,774	10,963	1,788	3,420	16,171	133,208	844	585,576	447,602	1,509,175	1937
1938	186,794	260,659	447,453	10,276	2,322	2,933	15,531	301,123	1,035	400,876	541,812	1,707,830	1938
1939	73,216	196,672	269,888				16,103	245,096	797	620,602	386,584	1,539,070	1939
1940	86,215	280,188	366,403				17,741	224,524	1,205	213,911	643,443	1,467,227	1940
1941	149,715	305,582	455,297	17,794	3,911	28,771	50,476	391,407	3,454	427,766	920,470	2,248,870	1941
1942	418,491	248,080	666,571	11,198	3,826	9,721	24,745	211,139	4,649	270,622	633,834	1,811,560	1942
1943	72,507	92,382	164,889	4,171½	2,199	4,287½	10,658	186,042½	3,095	530,188½	363,348½	1,258,221½	1943
1944	107,431	140,283	247,714	3,664	3,368	13,330	19,362	183,546½	3,926½	389,692	255,316½	1,097,557½	1944
1945	122,384½	205,617	329,001½	3,666½	2,686	6,447½	12,800	218,887	2,922	825,512½	350,188	1,739,311	1945
1946	381,580	161,447	543,027	3,972½	523	2,823	8,100½	100,154½	4,115½	116,607½	576,133½	1,348,138½	
1947	91,544	194,741	286,285				9,955½	145,029	3,234	599,212	460,999	1,504,714½	19
10 Year Avg.	**170,120**	**211,363**	**381,583**				**19,165**	**219,494**	**2,604**	**438,132**	**511,535**	**1,572,313**	**10 Year Avg.**

Note:—Figures for 1925 to 1946 have been corrected from official statistics. "Ten Year Average" is for ten years prior to 1947. Figures for 1947 are subject to further correction. Figures for "Fraser River Sockeyes" include all Sockeyes canned in District No. 1, regardless where caught.

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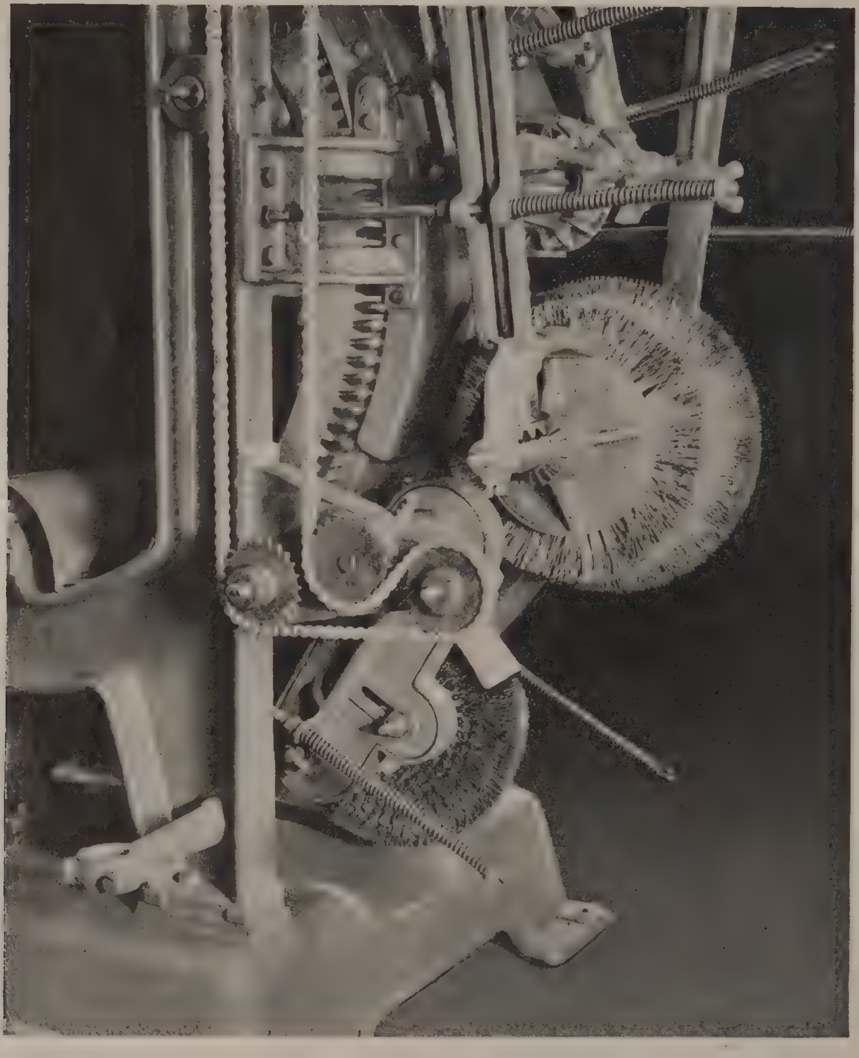

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Several adverse factors tended to check new construction and improvement of salmon canneries in 1947, but continued expansion of facilities was noted on Bristol Bay and Puget Sound. Commercial canning was resumed in California after a lapse of 14 years.

Several packing companies were reorganized, and some new leasing deals were effected, but there were few changes of ownership.

New cannery enterprises and improvements were held within rather narrow limits in 1947 by excessive costs and labor complications, continued scarcity of equipment, and the dubious outlook both for salmon runs in many areas and for maintenance of the market. As in the previous year, the greatest activity was on Bristol Bay and Puget Sound, where increased abundance of fish was anticipated.

New salmon canneries were exceptionally few in number, and were all small.

Two new outfits appeared on Bristol Bay. The Astorian Fisheries Corporation's floating freezer *Aleutian Queen* installed a canning line and made a very small pack at various points in the Kuskokwim and Bristol Bay regions; and the Egegik Packing Co., formed by well known Seattle cannerymen, took over the Evans property at Egegik and started operations late in the season. The latter company is now completing its plant, and expects to start the 1948 season with an up-to-date 1½-line installation.

The improvement program of larger Bristol Bay packers was actively continued in preparation for a big season.

Puget Sound Activity

On Puget Sound a small but well-equipped plant was established at Point Roberts by the Point Roberts Fisheries, headed by Wm. S. Olson. At Bellingham the Sea-Pac Co., organized by K. I. Dahl and Reuben Swanson, installed a canning line in conjunction with the Dahl Fish Co. plant. The Seaview Canning Co. established a small cannery in the Ballard district of Seattle; and the Smith Seafood Co.'s crab cannery at Anacortes packed salmon for the first time.

Another new Puget Sound enterprise was the Nelbro Packing Co., initiated by British Columbia interests, which made a good-sized pack under joint arrangement at the Iwersen cannery, Point Roberts. The Bugge Canning Co.'s floating plant, inoperative for some years, resumed packing at Richardson.

Practically all Puget Sound canneries made more or less extensive improvements, including replacement with new machinery of much makeshift equipment installed in new plants in 1946.

The Anacortes Canning Co. replaced steam power with individual electric motors and installed a new retort. The P. J. Burk Packing Co., Bellingham, put in a new "Iron Chink," a high-speed American Can Co. line and three 10-car retorts, and the Columbia River Packers Association improved its building and added a second Acme boiler, two 12-car retorts, a third "Iron Chink," two new American Can Co. tall lines and a vertical steel elevator.

The Chase Packing Co., Anacortes, installed two new Continental lines, an "Iron Chink" and a 4-car retort. Farwest Fishermen, Inc., added a third "Iron Chink" and a tray-inverter, can unscrambler and casing machine, and the Fishermen's Packing Corp. completely rebuilt its bins and fish-house, equipped its lines with separate motor drives, palletized the handling of its pack and improved facilities for fishermen and employees.

The Friday Harbor Canning Co. replaced old retorts with four of 10-car, double-ended type. The Keller Fishing & Packing Co., Deer Harbor, installed a tall and a half canning lines, added some improved 10-car retorts, and built a marine railway. The Whiz Fish Products Co., LaConner, added a new retort and a casing machine.

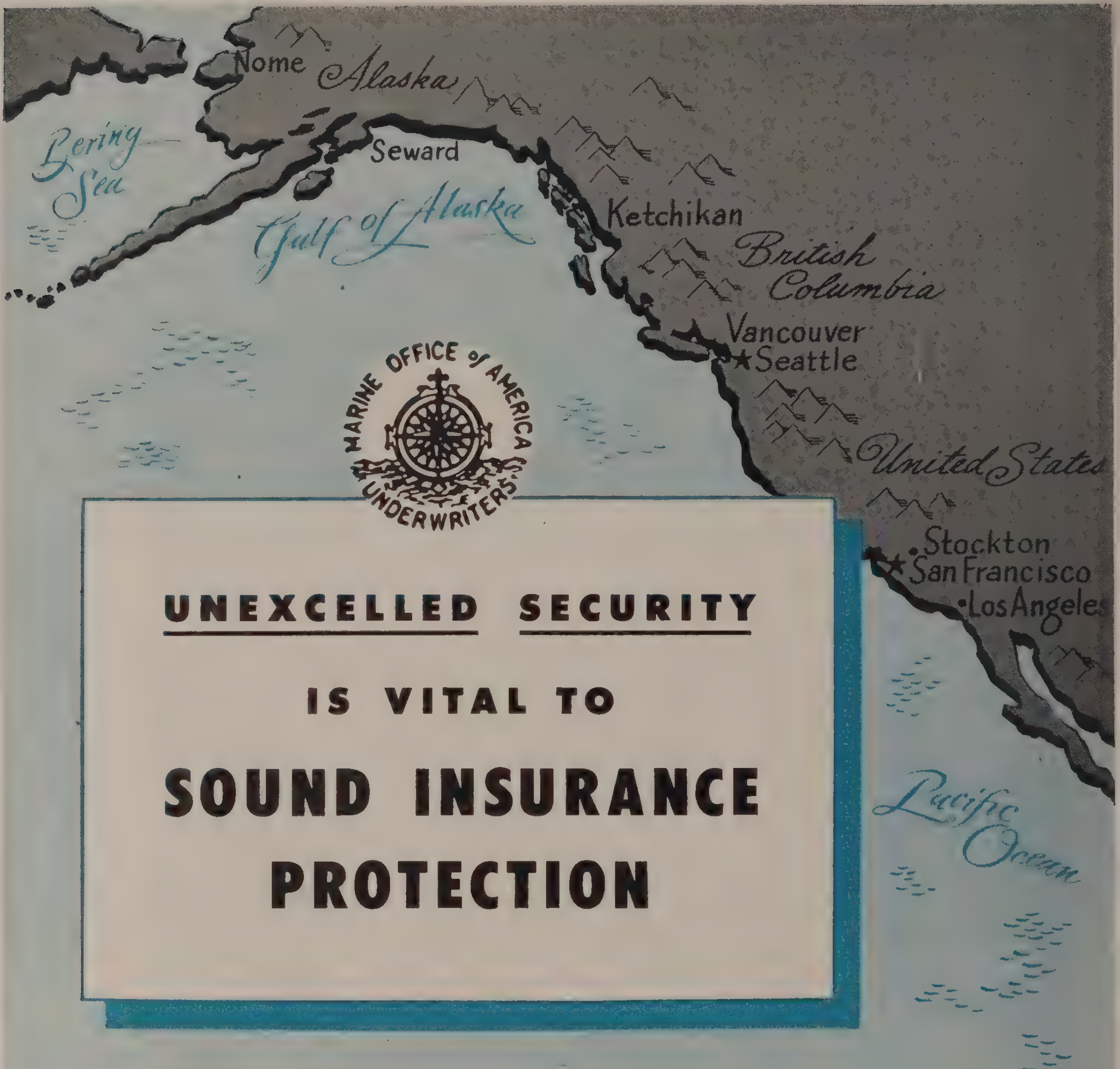
Other New Outfits

Several very small new operations were started in Southeast Alaska, including Binkley's Canning Co. at Wrangell; the Lutak Fish Co. at Haines; Smith & Morrow at Sitka and the Specialty Processors at Petersburg. New operations in Central Alaska were those of R. A. Kester at Polly Creek, Cook Inlet, and the Cape Douglas Canning Corp. at Swikshak Lagoon, just west of Cook Inlet.

An interesting development of the season was resumption of commercial salmon canning in California for the first time since 1933. Salmon lines were installed by the Tom Lazio Fish Co., Eureka, and Princeton Packers on Half Moon Bay.

In British Columbia Tulloch Fisheries, Ltd., established a new 1-line plant on the Fraser River.

Only one notable fire loss occurred; the 3-line Wrangell plant of the



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OFFICES THROUGHOUT THE UNITED STATES—CLAIMS AND SETTLING AGENTS THROUGHOUT THE WORLD

Farwest Alaska Co. being burned June 9 with an estimated loss of over $300,000, including the main buildings and equipment and large quantities of gear, cans and cases. The plant was to pack in a joint operation for the Buhrman, Brueger and Nergaard interests, who hastily equipped the Burnett Inlet cannery, idle and dismantled since 1944.

Business Changes

No especially notable changes in ownership took place during the year, though a few plants were sold and some new leasing arrangements were made.

The Alaska Native Consolidated Canning Co. sold its property at Sand Point, in the Shumagin Islands, to the Alaska Pacific Salmon Co., owner of an adjoining site; but the property was immediately transferred to the Aleutian Cold Storage Co., which has since put in a large freezing plant to be opened in the spring of 1948.

The A R B Packing Co. and Burnett Inlet Salmon Co. at Wrangell, formerly operated by A. R. Brueger and O. P. Nergaard, but whose pack in recent years has been made through a joint arrangement by the Farwest Wrangell Co., were consolidated under the name of Wrangell Fisheries, Inc.

The Chignik Salmon Co. was bought out early in the year by the Kreielsheimer interests, long identified with the Kadiak Fisheries Co., who reorganized the business under the name of Chignik Fisheries Co.

The North Pacific Canning Co., Inc., organized by H. M. Parks of the Western Fisheries Co., etc., and associates, took a lease with option to purchase on Oscar Nicholson's cannery at Scow Bay, near Petersburg, and operated it. This plant was idle in 1946, having operated for some years previous under lease to Dean C. Kayler.

Seldovia Packers, Seldovia, formerly owned personally by Capt. C. E. Anderson, was incorporated as Alaska Seldovia Packers, Inc. Capt. Anderson also operated the Kenai Packing Co.'s plant at Kenai under a joint arrangement, under the name of Anderson Kenai Operation.

The Whiz Fish Products Co. operated the Hood Bay Salmon Co.'s plant at Hood Bay, Southeast Alaska, under a two-year lease.

In the Grays Harbor district, the Haines Seafood Co., Hoquiam, was reorganized under the name of Crown Packers, Inc.

Government Craft Acquired

Many packers took the opportunity to purchase floating equipment of various kinds from the government's war surplus—power scows; landing craft of several different types, large and small; DUKW's; unfinished hulls, both steel and wood, suitable for cannery tenders, and other miscellaneous items. While most of these vessels were not directly adapted to cannery service, many of them, with some alteration, are being found very useful for various purposes.

During the summer Libby, McNeill & Libby sold their 5,544-ton steamer *David W. Branch* to Greek interests, marking the end of the formerly large fleet of cannery-owned freight and passenger vessels in the Alaska service. A detailed account of the history and disposal of this fleet was published in Pacific Fisherman for March, 1947.

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Maybe we are tooting our own horn
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SMO-KING Brand
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POINT ADAMS PACKING COMPANY
HAMMOND • OREGON

1947 -- Canned Salmon Pack of Pacific American Fisheries, Inc. -- 1947

District and Cannery Location	Red or Sockeye				Pink			Chum				Coho				King or Chinook			Grand Total (Full Cases)
	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Flats	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. & ½-Lb. Flats (48 lbs.)	Total	
WESTERN ALASKA																			
Nushagak	41,897		9,765	51,662				4,291			4,291	221			221	992		992	57,166
Naknek	76,747	6,376		83,123				1,324			1,324					91		91	84,538
Port Moller	14,294			14,294				2,784			2,784					36		36	17,114
Total Western Alaska	**132,938**	**6,376**	**9,765**	**149,079**				**8,399**			**8,399**	**221**			**221**	**1,119**		**1,119**	**158,818**
CENTRAL ALASKA																			
King Cove	5,321	12,790	3,742	21,853	28,170	7	28,177	15,179	1,641	13,066	29,886	454	341		795	27		27	80,738
Squaw Harbor	897		7,330	8,227	29,293	520	29,813	3,439		807	4,246	190		265	455	104		104	42,845
Chignik (a)	19,565			19,565	1,177		1,177	113			113	24			24	14		14	20,893
Alitak	456	53	8,153	8,662	20,919		20,919	533		35	568	36			36				30,185
Snug Harbor (b)	7,971	874		8,845	39		39	103			103	1,980	153		2,133	225	*187	412	11,532
Total Central Alaska	**34,210**	**13,717**	**19,225**	**67,152**	**79,598**	**527**	**80,125**	**19,367**	**1,641**	**13,908**	**34,916**	**2,684**	**494**	**265**	**3,443**	**370**	**187**	**557**	**186,193**
SOUTHEAST ALASKA																			
Petersburg	299			299	15,564		15,564	3,641			3,641	1,446			1,446	2		2	20,952
Kasaan	346		574	920	27,042	2,337	29,379	5,277		1,524	6,801	1,217		621	1,838	17		17	38,955
Excursion Inlet (c)			2,184	2,184	7,231	1,441	8,672	2,065		1,811	3,876	209		767	976	39	*19	58	15,766
Pillar Bay (d)	204			204	2,912		2,912	1,380			1,380	580			580	76		76	5,152
Total Southeast Alaska	**849**		**2,758**	**3,607**	**52,749**	**3,778**	**56,527**	**12,363**		**3,335**	**15,698**	**3,452**		**1,388**	**4,840**	**134**	**19**	**153**	**80,825**
GRAND TOTAL	**167,997**	**20,093**	**31,748**	**219,838**	**132,347**	**4,305**	**136,652**	**40,129**	**1,641**	**17,243**	**59,013**	**6,357**	**494**	**1,653**	**8,504**	**1,623**	***206**	**1,829**	**425,836**

Note: Some of the Pacific American Fisheries' packs were made through joint operation in canneries of other companies, as follows: (a) Canned in Chignik plant of Alaska Packers Association; (b) Canned in plant of Snug Harbor Packing Co.; (c) Canned in Excursion Inlet plant of Astoria & Puget Sound Canning Co.; (d) Canned in Pillar Bay plant of Fidalgo Island Packing Co.

Salmon was also canned in Pacific American plants for other companies, as follows: Squaw Harbor, for Alaska Pacific Salmon Co.; Alitak, for Alaska Packers Association; Petersburg, for P. E. Harris & Co.; Kasaan, for Libby, McNeill & Libby.

*The pack of Kings, other than 1-lb. Talls, includes 187 cases of 1-lb. Flats at Snug Harbor, and 19 full cases of Halves at Excursion Inlet.

1947 -- Canned Salmon Pack of P. E. Harris & Co. -- 1947

District and Cannery Location	Red			Pink			Chum			Coho			King			Grand Total (Full Cases)
	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	½-Lb. Flats (8 doz.)	Total	1-Lb. Talls	1-Lb. Flats	Total	
CENTRAL ALASKA																
False Pass	25,979		25,979	19,928		19,928	34,462		34,462	821		821		55	55	81,245
SOUTHEAST ALASKA																
Hawk Inlet	5,058		5,058	21,233		21,233	9,820		9,820	2,684		2,684				38,795
Kake	300		300	15,562		15,562	3,644		3,644	1,446		1,446	2		2	20,954
Ketchikan	418	620	1,038	18,868	4,843	23,711	4,456	1,008	5,464	990	596	1,586	19		19	31,818
Rose Inlet	269		269	17,666		17,666	4,660		4,660	1,104		1,104				23,699
Total Southeast Alaska	**6,045**	**620**	**6,665**	**73,329**	**4,843**	**78,172**	**22,580**	**1,008**	**23,588**	**6,224**	**596**	**6,820**	**21**		**21**	**115,266**
GRAND TOTAL	**32,024**	**620**	**32,644**	**93,257**	**4,843**	**98,100**	**57,042**	**1,008**	**58,050**	**7,045**	**596**	**7,641**	**21**	**55**	**76**	**196,511**

Note:—Salmon credited to P. E. Harris & Co.'s Kake cannery was canned through joint operations in Petersburg plant of Pacific American Fisheries, Inc. P. E. Harris & Co.'s Ketchikan cannery also made the pack of the Beegle Packing Co. under joint operating arrangement

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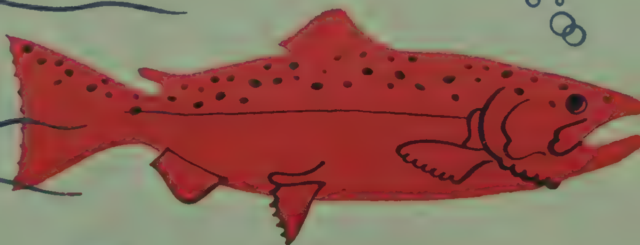

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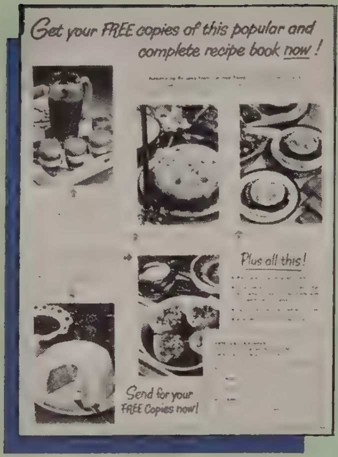
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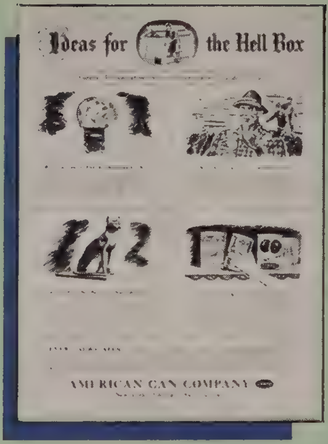
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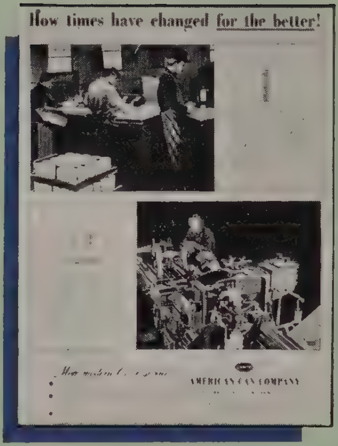
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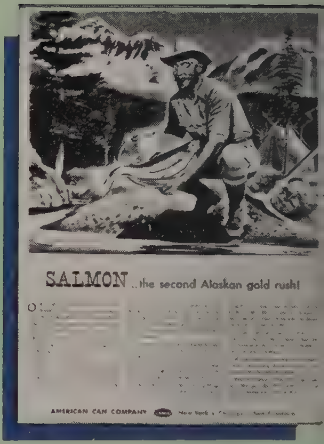
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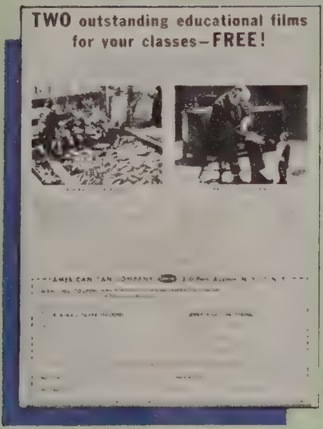
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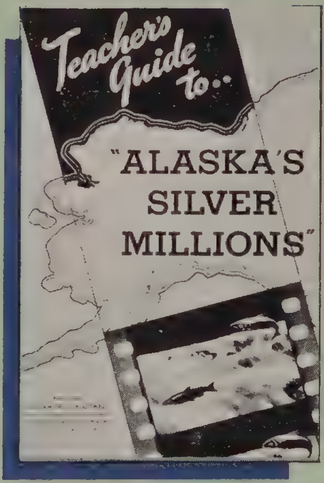
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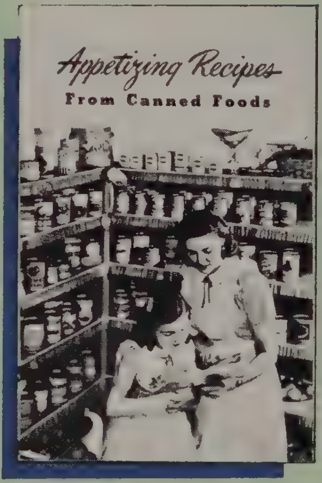
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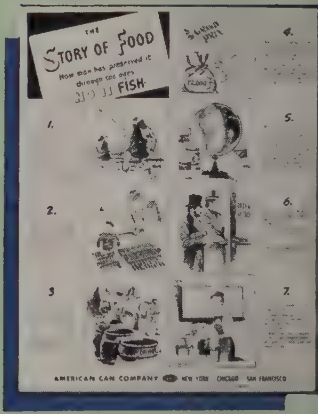
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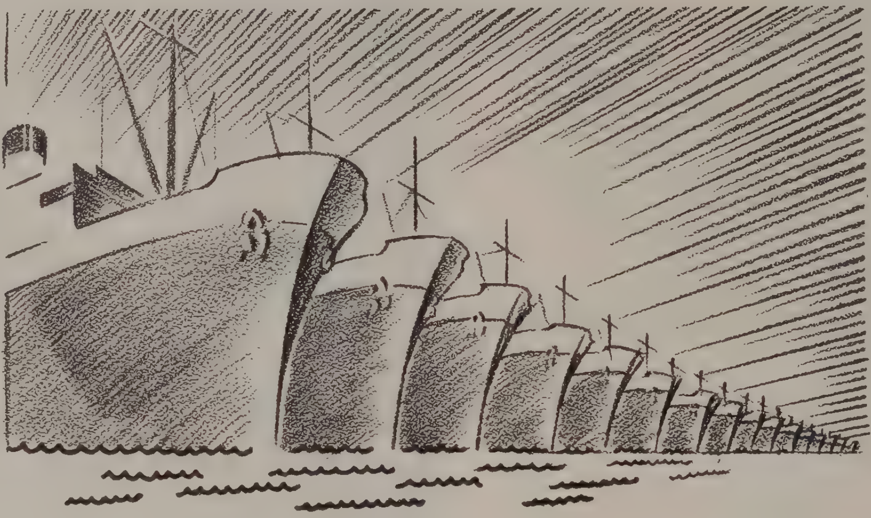

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PIER 42 — Alaska Terminal . . . SEATTLE

Serving All Alaska

Increased production, with heavily reduced U. S. and British government purchases, gave the trade by far the greatest quantity of salmon since 1941. Demand, however, has continued greatly in excess of supply.

Early expectation of declining prices was not realized. Opening prices reflected a desire to keep values within bounds, but were followed by a rapid advance, with most items reaching new peaks during the fall.

A state of tension continued in the canned salmon market through most of 1947 — the first full year since 1941 free from government controls and emergency requirements — with demand running ahead of supply, and prices—especially on the cheaper varieties—tending spasmodically upward.

Despite the fact that the domestic civilian trade received by far the largest quantity of salmon in six years — exceeding that of 1946 by well over 1¼ million cases—demand at practically all times greatly exceeded supply, resulting in a new peak in prices. Toward the end of the year values had reached a point which seemed to be bringing demand and supply into more stable equilibrium; but at the same time further inflationary factors appeared, indicating at least a possibility of further advances.

Under these conditions both buyers and sellers are "keeping their fingers crossed;" but, barring any drastic unforeseen change in the world situation, it is hard to see how salmon values can be lower before 1948 pack is available.

Supply Increases, But Is Less Than Pre-War

The total pack was over 5½ million cases — the largest since 1943. and at least 700,000 cases more than in 1946, but still far below normal Assuming that exports and government requirements may have absorbed around 750,000 cases (probably an excessive estimate), there was available to the civilian trade not less than 4¾ million cases—over 1¼ million more than in each of the years 1945 and 1946, and more than double the average supply of earlier war years.

This quantity, however, compares with a pre-war average of well over 6,000,000 cases a year. Thus, with all meats and other canned fish in scant supply and correspondingly high in price, and with no salmon held by the trade, the continued "tightness" of the market was not surprising; and current prices are not at all out of line as compared with those at which other protein foods are selling readily and in large volume.

Early Weakness Is Short-Lived

The inventory position of jobbers as to other merchandise, combined with the high prices of most foods after decontrol, led to something of a scare at the beginning of 1947, when demand fell slack and more or less salmon was resold in eastern markets below cost.

Primary sellers, however, carried over less than 10% of the pack into the new year. Most jobbers had far less salmon than they desired, but were deterred from further buying by prices in whose stability few had much confidence.

This resulted in a slight weakening, culminating in mid-February when some lots were sold at concessions from the general quotations. Spring, however, brought a sharp revival of buying interest, which rapidly cleaned up the small stock remaining in first hands. Pound talls of all species were practically gone by mid-March.

At this time the general expectation, among packers as well as buyers, was for a drop in values when the new pack should appear; the best that was hoped for was an orderly decline. How far wrong this forecast was appeared later in the year.

Through the spring and even later there was some canning of 1946 frozen Chums and Silvers, and some early troll-caught Silvers were canned on Puget Sound; but these goods were promptly absorbed without affecting the market. The small pack of Columbia River fancy spring Chinooks also went out as fast as it was offered at the initial price basis of $19.00 for halves.

By June both jobbing and retail stocks were almost completely exhausted, and the market developed a "high vacuum," with advancing prices on the few items available; but primary sellers had nothing of any consequence to offer until July, when the new Alaska pack commenced to appear and scattering lots were placed on the market.

Reds Jump After Opening

Reports of a big Alaska Red pack resulted in early offerings at $23.00 for talls, which were eagerly snapped up: the last previous price having been $26.00. The $23.00 price was later confirmed by the "opening" figure of a large producer; but another soon opened at $22.65 for talls, $23.75 for flats and $16.00 for halves, and prices on early sales were generally adjusted to this basis.

This was met by a very heavy demand, and at the same time the

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British Ministry of Food entered the market — buying, for the first time in years, through regular trade channels. With Britain's critical situation in dollar exchange, its purchases were far less than normal, but were a factor of importance in cleaning up the supply. On Aug. 13, also, a cargo of salmon was sunk, removing from the market some 154,000 cases or about 8% of the Alaska Red pack. Much of this was later salvaged, but by that time the shortage had again become acute.

The greater part of the Red pack was sold out within a few weeks, and it soon became evident that, even with the increased supply, demand was far from satisfied. In late August talls jumped to $24.50—gradually advancing through the fall to $25.00 and finally $26.00, with very little offered except the salvaged stock, priced at $25.00. Halves had advanced to $18.00-$18.20.

Pinks and Chums Advance Sharply

Opening prices on Pinks, Chums and Cohoes were not announced until early September, when the shortage was fairly evident. Old Pink talls had cleaned up at $16.00 to $18.00; in midsummer, with very urgent demand for prompt shipment, scattered lots of new pack sold around $17.50. Then a leading packer opened at $17.25, but the spot price jumped almost immediately to $18.00; then $18.50; $19.00; and late in the year little was available at $20.00, with sales reported at $21.00.

Of the Puget Sound Pink pack, more than usual went into halves, of which offerings for a time exceeded the demand. This item dropped on the opening to $11.50; but the prevalent new-pack price was $13.00. To stimulate the movement, a good many Pink talls were sold through the fall at $19.00 with equal quantities of halves at $13.00.

Chums have been in relatively less demand than other species, but have advanced sharply and cleaned up fairly well. Talls of 1946 pack cleaned up at $16.50, and in July and August spot sales of new pack were made from $14.60 up to $17.00. The first "opening price" of $16.85 for talls and $11.10 for halves was soon followed by another at $18.50 talls and $12.70 halves, and late in the year very few talls could be found under $19.00. A relatively large percentage of Chums went into halves, which were still in fair supply as the year ended; but about that time a strong export interest developed, in view of which all offerings were firmly held.

Cohoes, with very light production, have been in good steady demand all season, with little price fluctuation. They were closely cleaned up as the year ended; talls having advanced from the opening at $22.00 to a range of $23.00 to $24.00 in November.

Some Stock Carried Over

Demand slacked off during the fall, with immediate needs fairly satisfied and jobbers carrying large inventories of other merchandise; but repeat orders continued numerous, and the Lenten demand after the turn of the year was expected to quickly absorb most of what remained on the Coast.

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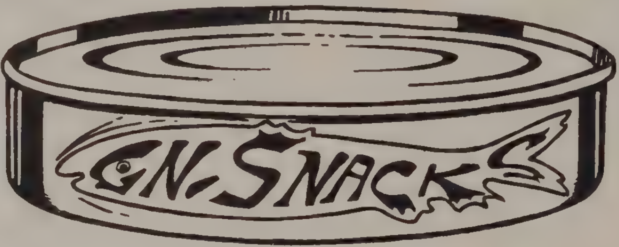

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1947--Monthly Record of Pacific Coast Canned Salmon Prices--1947

VARIETY AND PACKAGE	DECEMBER (1946)	JANUARY (1947)	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
CHINOOK, FANCY—	$	$	$	$	$	$	$	$	$	$	$	$
½-Lb. Flats	18.50–22.00	19.00	19.00	...	...	...	19.00	19.00	19.00–20.00	19.00–20.00	...	.
SOCKEYE, PUGET SOUND—												
1-Lb. Talls	28.00–32.00	28.00–32.00	...	...	...	...	...	...	...	...	...	..
1-Lb. Flats	30.00–32.00	30.00–32.00	30.00–32.00	...	...	...	...	...	...	...	..	..
½-Lb. Flats	19.00–22.00	19.00	19.00	19.00	...	...	...	...	22.00	22.00	22.00	21.60–22.00
ALASKA RED—												
1-Lb. Talls	22.00–26.00	25.00–26.00	25.00–26.00	26.00	...	...	...	23.00–22.65	23.00–24.50	24.50–26.00	26.00	25.00*-26.00
1-Lb. Flats	...	...	...	...	...	...	...	23.25	23.25–23.75	23.25–23.75	26.00	26.00†
½-Lb. Flats	17.50–18.50	17.50	17.50	17.50	...	...	...	16.00	16.00–17.00	16.00–17.50	18.00	18.00–18.20†
COHO, MEDIUM RED—												
1-Lb. Talls	22.00–23.00	22.00–23.00	22.00–23.00	22.00	22.00	22.00	22.00–23.00	22.00–23.00	21.00–23 00	22.00–23.00	23.00–24.00	23.00–24.00
½-Lb. Flats	13.00–16.00	13.00–16.00	13.00–16.00	13.00–15.00	13.00–15.00	14.00–15.00	14.00–15.00	14.00–15.00	14.00–15.00	14.00–15.40	14.00–15.50	15.00
PINK—												
1-Lb. Talls	12.00–16.00	16.00	14.00–16.00	15.00–16.00	16.00	16.00–18.00	...	15.00–17.50	17.50	17.25–19.00	19.00–20.00	20.00
½-Lb. Flats	10.50–12.00	12.00	12.00	12.00	12.50	12.50	...	11.50–12.00	11.50–12.00	11.50–13.00	13.00–13.50	12.00–13.00
CHUM—												
1-Lb. Talls	11.40–16.00	15.00–16.00	14.00–15.00	14.00–15.00	15.00	...	...	14.60–16.00	16.50–17.00	16.85–18.50	18.50–19.00	18.50–19.00
½-Lb. Flats	8.50–10.50	8.50–10.50	8.50–10.50	8.50–11.00	9.50–11.00	10.50	...	...	...	11.10–12.50	11.50–12.50	11.00–12 00

NOTE:—Prices are quoted per case of 48 cans, 1-lb. or ½-lb., f.o.b. Pacific Coast shipping point.

* The price of $25.00 is for salvaged and reprocessed goods.
† Quoted for special brand.

A few packers have withheld most of their output, and a number of others were holding part of their packs, for offering early in 1948. This stock includes some of most varieties, though some popular items are in very small supply. No definite idea can be given of the quantity held, but it is believed to be not over 700,000 cases — probably less — of all species and styles. As continued inquiries indicate that the supply in distributing markets is small and rapidly dwindling, it is felt that the early disposal of these goods offers no real problem, and no doubt is felt that by spring the market will be fully as bare as a year previous.

While British purchases were unusually small, export demand—especially for Pinks and Chums — has been a factor of some importance most of the year, which closed with a large volume of inquiry from the Orient. It is felt that the emergency European relief program, and pending adoption of the "Marshall plan," will greatly strengthen the world market for all protein food and, even though no salmon may be used for relief, these factors are bound to be reflected in the salmon trade.

Government purchases in 1947 were limited almost exclusively to requirements of our armed forces. The Army estimated its needs at slightly over 200,000 cases, but entered the market rather late; and up to mid-December its purchases were far short of that amount, though further procurement was under negotiation.

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Britain's "austerity program" cut the United Kingdom's share of the Canadian salmon pack to a small fraction of the 75% first requested, giving Canada double its 1946 allotment. Domestic demand was strong, but packers were disappointed in their hope of a reduction in the United States tariff.

For British Columbia salmon canners 1947 was marked by swift and unexpected changes on the marketing front, and the season ended with operators more uncertain than before in their estimates of the future.

The industry had no serious problems at the beginning of the year in disposal of a 1946 carryover, because there had been such a strong demand that there was virtually no unsold surplus. The United Kingdom had desired 1,000,000 cases of British Columbia salmon in 1946, but this figure was reduced fully 25% by decision to permit an allocation of 500,000 cases to the Canadian domestic market, partly to compensate for the negligible quotas permitted home buyers during the wartime period.

The result was that the packers had no difficulty in disposing of their entire output, with Canada getting its biggest share in six years and the balance going to the London Food Council, UNRRA and other relief agencies.

British Purchases Are Sharply Curtailed

In 1947 the United Kingdom, acting through its Ministry of Food, optimistically entered the market with a request for at least 75% of the total British Columbia pack. This was regarded as excessive by the packers, who felt that unless the total was much greater than expected the Canadian allotment would be too sharply reduced. The British negotiators compromised for 40% on the understanding that they would receive a fairly good assortment of Sockeyes.

Then came Britain's "austerity program," sharply curtailing all purchases in dollar countries. In September the British representatives said they would like to cancel

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their contract altogether but, in view of their earlier commitments, they would accept up to 20% of the total British Columbia pack.

As things finally turned out, the United Kingdom actually took only about 6% of the pack, which totaled about 1,500,000 cases; and more than 1,000,000 cases were allocated to the Canadian market—double the allotment of the previous year.

With a strong domestic demand, canners were not perturbed by Britain's unavoidable vacillation; but later the lifting of the embargo on shipment of fresh salmon to the United States caused serious anxiety—especially since, through the Geneva agreement, the United States tariff was to be reduced Jan. 1, 1948. This resulted in most of the fall catch going to Puget Sound canneries, which could pay more than Canadian plants for the fish because of higher values on the canned product in United States markets.

Chief hope of British Columbia canners was that the Geneva conference would result in reduction of the United States tariff on canned salmon, but in this they were disappointed.

PRICES FOR BRITISH COLUMBIA CANNED SALMON, 1942-1947

Variety—	Talls or Flats, 1-lb.	Flats, ½-lb.	Flats, ¼-lb.
Sockeye—Grade A:			
1947........	$23.50	$25.00	$15.00
1946-c....	18.90	20.30	....
1945-46-b	17.65	18.90	11.20
1942-44-b	16.25	17.50	10.50
Grade B, and Grade A Tips and Tails:			
1947........	$18.70	$20.25	$12.52½
1946-c....	14.90	16.30	....
1945-46-b	13.85	15.15	9.30
1942-44-b	12.75	14.00	8.75
Coho, Blueback, Spring (Red, Pink & Jack) and Steelhead—Grade A:			
1947........	$20.00	$21.50	$13.00
1946-c....	13.90	15.25	....
1945-46-b	12.90	14.15	8.82½
1942-44-b	11.50	12.75	8.12½
Grade B, and Grade A Tips and Tails:			
1947........	$17.30	$18.85	$11.75
1946-c....	12.10	13.50	....
1945-46-b	11.20	12.50	8.00
1942-44-b	10.00	11.25	7.27½
Pink (1947 only)—Grade A:			
1947........	$12.50	$14.50	$9.00
Grade B, and Grade A Tips and Tails:			
1947........	$11.85	$13.10	$8.57½
Chum (1947 only)—Grade A:			
1947........	$12.00	$13.50	....
Pink, Chum and White Spring—Grade A:			
1946-c....	$8.30	$9.70	....
1945-46-b	7.65	8.90	5.70
1942-44-b	6.25	7.50	5.00
Grade B, and Grade A Tips and Tails:			
1946-c....	$7.35	$8.75	....
1945-46-b	6.75	8.00	5.25
1942-44-b	5.50	6.75	4.62½

NOTE: Quotations for 1947-pack represent packers' opening prices to the domestic market, but are approximately the same as for the United Kingdom contract. Since Canadian prices are now free of government control, there is a wider variation than formerly; but the list presented here is based on average actual prices current in the fall of 1947.

Prices marked "c" were established by the Canadian government in December, 1946, for sales to the domestic trade, but are also roughly equivalent to those received for export to the United Kingdom, etc. Prices marked "b" were those paid by the British Ministry of Food in 1945-46 and 1942 to 1944. Prices for Grade B Tips and Tails, which were established from 1943 to 1946, are no longer quoted.

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INITIAL PRICES FOR CANNED SALMON, 1936 to 1947

	Per Case (48 Cans) Talls	Flats	Halves
1936			
Chinook, C.R. Fcy.	....	$13.60	$8.00
Pgt. Sd. Sockeye	$11.00	13.00	7.00
Alaska Red	7.60– 8.00	10.00	6.00
Alaska King	7.00	....	....
Coho, Fancy	6.80– 7.00	7.60	4.40– 4.60
Med. Red	6.40– 6.60	7.60	4.40
Pink	4.00	....	3.00– 3.40
Chum	3.60– 3.70	....	2.80– 3.00
1937			
Chinook, C.R. Fcy.	....	$14.40	$8.40
Pgt. Sd. Sockeye	....	14.00	8.40
Alaska Red	$10.00	11.00	6.80
Alaska King	9.00	9.60	6.20
Coho, Fancy	8.40	9.40	5.40
Med. Red	8.00	8.20	5.00
Pink	5.00	5.60	3.40
Chum	4.80	....	3.20
1938			
Chinook, C.R. Fcy.	....	$14.40–15.60	$8.40– 9.20
Pgt. Sd. Sockeye	....	10.00	7.00
Alaska Red	$7.40– 7.80	8.80	5.60
Alaska King	6.80– 7.60	8.60	5.40
Coho, Med. Red	6.40	7.00	5.00
Pink	4.00	....	3.00
Chum	3.60– 3.80	....	2.80
1939			
Chinook, C.R. Fcy.	....	$14.80–15.60	$8.60– 9.20
Pgt. Sd. Sockeye	....	13.60	8.00
Alaska Red	$8.60– 9.00	9.40	6.40– 6.70
Alaska King	8.40	10.40	8.40
Coho, Fancy	7.00– 7.20	8.00	5.00
Med. Red	6.40– 7.00	....	4.80– 5.00
Pink	5.00– 5.20	....	3.40– 3.60
Chum	4.60	....	3.20
1940			
Chinook, C.R. Fcy.	....	$15.40	$9.00
Pgt. Sd. Sockeye	....	14.00	8.40
Alaska Red	$9.60	10.60	6.60
Alaska King	9.20	....	....
Coho, Fancy	7.80– 8.00	8.40	5.00
Medium Red	7.40	....	4.80
Pink	5.40	....	3.80
Chum	4.80	....	3.40
1941			
Chinook, C.R. Fcy.	....	$18.00	$10.40
Pgt. Sd. Sockeye	....	17.00–17.40	10.00
Alaska Red	$13.40–13.60	14.40	8.20
Alaska King	12.00	....	....
Coho, Med. Red	....	12.00	7.00
Pink	7.00	....	4.40– 4.80
Chum	6.80	....	4.20– 4.60
1942			
Chinook, C.R. Fcy.	$19.00	$20.60	$13.00
Pgt. Sd. Sockeye	18.00	19.00	11.40
Alaska Red	15.00	15.50	10.00
Coho, Silverside	11.60–11.80	12.30–14.00	8.00
Pink	8.00	8.00	5.60
Chum	7.60	9.00	5.00– 5.40
1943 - 1944 - 1945			
Chinook, C.R. Fcy.	$19.00	$20.60	$13.00
Alaska King	14.00	17.60	10.00
Pgt. Sd. Sockeye	18.00	19.00	11.40
Copper R. Sockeye	15.00	16.00	11.00
Alaska Red	15.00	15.50	10.00
Coho, Silverside	11.60–11.80	12.30–14.00	8.00
Pink	8.00	8.00	5.60
Chum	7.60	9.00	5.00– 5.40
1946			
Chinook, C.R. Fcy.	....	....	$18.50
Alaska King	$20.00	$24.00	18.50
Pgt. Sd. Sockeye	25.00–28.00	35.00	19.00
Alaska Red	20.00–22.00	19.18–23.00	13.40–16.50
Coho, Med. Red	16.00–17.00	....	11.60
Pink	12.00	....	8.40
Chum	9.40–11.60	....	8.00
1947			
Chinook, C.R. Fcy.	....	....	$19.00–20.00
Alaska King	$21.40–22.00	$28.25	17.50–18.00
Pgt. Sd. Sockeye	....	....	19.00–22.00
Alaska Red	22.65–24.50	23.25–25.00	16.00–17.50
Coho, Med. Red	22.00	....	15.00–15.40
Pink	17.25–19.00	....	11.50–13.50
Chum	6.50–18.50	....	11.10–12.50

Explanation of Table of Initial Prices

NOTE: The title of this tabulation is changed from "OPENING PRICES" to "INITIAL PRICES," and the prices of pre-war years — originally quoted *per dozen*, are converted to the *per case* basis which was introduced during the war and continues in general use.

While the prices quoted are based largely on formal "opening prices" announced as such by leading sellers, they are not limited exclusively to such quotations, and it would thus be misleading to designate them as "opening prices" — a term which, through long custom, has acquired a special and technical significance. The formal "opening prices" of different concerns are often incomplete, and vary so widely that a full presentation of them might be confusing. The purpose of this tabulation is to present comprehensively for each year the earliest prices at which a large percentage of the pack has been sold.

The prices here quoted for the war years are the "ceilings" established by the government. Those for 1946 are the prices announced by the majority of large packers after "decontrol," although about 20% of the pack was sold at the "last ceiling" prices, and substantial quantities at higher figures than those quoted.

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In 1947, the first year when the effectiveness of the completed Hell's Gate fishways on the Fraser River could be tested for an entire migrating season, the structures functioned to the complete satisfaction of the International Pacific Salmon Fisheries Commission.

The 1947 spawning in the Fraser system exceeded that of 1943, the cycle year which produced the 1947 run, by more than 400 per cent.

With the main fishways on the left and right banks of Hell's Gate completed before the first 1947 Sockeye salmon began ascending the Fraser River to the spawning areas, the year was devoted largely to various supplementary projects on the long-term program of the International Pacific Salmon Fisheries Commission.

This supplementary program is now well under way, and while the commission's engineers will be called upon to deal with various other obstructive conditions as they may arise from time to time, the end of the commission's major construction is now in sight.

During 1947 a start was made in installing the new high and low-level fishways at Hell's Gate, and the high level structure on the right bank was completed during the summer. When constructed, these facilities will provide assistance for the fish at a range in water elevation from 11 to 70 feet.

MORE FISHWAYS BUILT

Engineers of the commission under Chief Engineer Milo Bell were engaged for several months on construction of fishways on Farwell Canyon in the Chilcotin country of British Columbia. Operations on one bank of the canyon were to be finished by the end of the year, and two other fishways in the same section were to be built during the spring of 1948, all to be in service by the next period of high water in the river.

The two fishways built on the Bridge River near the intersection with the Fraser were finished early in the year and were in working order for the 1947 season. They are of approximately the same length as those on the right bank of Hell's Gate—240', but not so high.

One of the less important undertakings, but an interesting one, is in connection with the Harrison Lake and river system at Weaver Creek. This creek, where there is often heavy spawning, runs dry for a length of about one quarter of a mile and it is the object of the commission's engineering department to prevent this by construction of a permanent channel through the delta.

CYCLE EXCEEDED 4 TIMES

The 1947 biological count of Sockeye salmon in the Fraser River system indicated an increase over the previous cycle year, 1943, of more than 400 per cent, according to a conservative estimate prepared by the International Pacific Salmon Fisheries Commission.

A. L. Hager, chairman of the commission, in presenting these figures, said:

"If we can maintain that increase, we have achieved something of first-rate importance to the fisheries of this region. The obstruction removal program initiated by the commission will soon be complete, and we are now concentrating on the rehabilitation of barren areas in the system.

"The indications were that in 1947 we would be faced with a virtually non-existent fishery on the Fraser," said Mr. Hager. "This was due to the fact that the count in the Fraser River for the last corresponding brood year of 1943 showed only 100,000 fish in the whole of the system —a negligible number.

"One of the commission's difficulties in applying closure in 1947 was the knowledge that Pinks would be intermingled with the Sockeye—and a big Pink run was anticipated. The commission realized that it couldn't penalize the industry with a complete closure, but it did set the opening of the fishing season later than usual.

"The Sockeye encountered no delay whatever at Hell's Gate or Bridge River and the fishways worked perfectly where there had been tremendous losses of fish and serious blockades before. The result was that the Sockeyes reached the spawning grounds much earlier and the fish were in good condition, with no bruises or other defects such as they sustained under the previous blockade conditions."

The preliminary figures on escapement in 1947 are as follows, and it should be remembered that 1943 was the lowest brood year on record:

Beaver Creek—In 1943, 3,128 fish; this year, 7,000.

Birkenhead River—In 1943, 50,658; this year, 117,000.

Adams River—In 1943, 10,000; this year, 50,000 and possibly 75,000—an increase of 500 per cent.

Raft River—In 1943, 4,000; this year, 8,200.

Chilko River—In 1943, 13,500; this year, 55,000.

Stewart Lake—In 1943, 3,000; this year, 13,000.

Bowron River—In 1943, 6,300; this year, 24,600.

Pitt River — In 1943, 9,100; this year, 90,900, or nearly 1000 per cent increase.

Seymour River—In 1943, 200; this year, 16,500; an increase of 8000 per cent.

Salmon Escapement Over Bonneville Dam

(In numbers of fish as recorded by U. S. Engineers)

CHINOOK

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1938	*	*	*	*	22,371	8,221	6,556	34,765	197,294	2,302	263	27	271,799
1939	6	12	121	51,410	25,159	5,602	17,845	32,919	150,851	2,197	78	16	286,216
1940	....	....	504	37,253	28,621	7,028	14,938	58,643	240,515	3,765	287	34	391,588
1941	4	....	1,360	51,501	19,445	7,013	9,395	12,590	351,967	7,179	866	138	461,458
1942	1	15	34	9,506	30,915	11,816	12,821	27,581	305,935	4,485	639	190	403,938
1943	11	6	43	12,172	53,268	5,440	8,044	28,985	201,414	3,354	365	21	313,123
1944	1	2	65	15,670	15,127	4,363	8,241	55,468	139,254	2,388	164	20	240,763
1945	6	4	81	17,148	26,276	11,293	16,327	32,254	189,675	4,281	137	6	297,488
1946	1	2	25	14,179	53,313	30,051	20,960	45,421	277,075	4,521	170	25	445,743
1947	....	2	141	83,520	49,899	25,502	13,358	43,062	260,385	3,945	526	....	†480,340
STEELHEAD													
1938	*	*	*	*	6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003
1939	23	19	560	8,110	1,587	1,490	36,581	38,062	33,891	1,264	216	119	121,922
1940	5	96	1,688	4,125	998	4,489	61,175	46,071	64,377	1,786	292	59	185,161
1941	37	76	1,641	6,392	1,518	994	21,940	29,600	50,542	3,980	1,063	304	118,087
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	76,622	2,411	566	182	151,345
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	92	92,131
1944	50	157	1,019	6,142	2,227	1,169	21,868	24,508	35,907	6,129	1,119	226	100,521
1945	1,003	1,078	3,066	4,685	1,557	1,109	24,600	40,483	40,194	1,925	302	142	120,144
1946	63	551	3,040	9,839	5,481	3,265	20,559	58,356	38,296	2,067	262	769	142,548
1947	197	321	1,968	6,889	2,025	1,595	28,134	40,819	50,025	2,905	443	....	†135,321
BLUEBACK													
1938	*	*	*	*	1,025	17,811	53,864	2,097	235	6	2	....	75,040
1939	....	....	....	48	189	29,386	43,124	616	19	....	....	....	73,382
1940	....	....	....	....	206	59,639	85,885	3,063	11	1	....	....	148,805
1941	....	....	....	299	1,052	23,536	39,193	1,615	50	....	....	....	65,745
1942	....	....	....	....	13	12,624	41,301	1,477	60	....	....	....	55,475
1943	....	....	....	....	9	4,525	33,613	1,697	1	....	....	....	39,845
1944	....	....	1	....	16	3,098	11,171	659	126	....	....	....	15,071
1945	....	....	10	51	521	1,507	6,903	498	10	1	....	....	9,501
1946	....	....	....	9	67	7,805	64,704	1,746	21	2	....	....	74,354
1947	....	....	....	....	5	59,378	108,175	3,564	15	1	....	....	†171,138
SILVERS													
1938	*	*	*	*	....	....	....	3,070	10,995	972	141	7	15,185
1939	3	....	....	....	....	....	....	1,810	12,226	310	15	18	14,382
1940	3	....	....	....	....	....	....	1,451	10,212	213	33	5	11,917
1941	2	....	....	....	....	....	....	1,317	16,061	369	160	2	17,911
1942	....	....	....	....	....	....	....	1,193	11,061	147	....	....	12,401
1943	....	....	....	....	....	....	....	762	1,676	89	20	....	2,547
1944	....	....	....	....	....	....	....	1,052	3,022	103	29	2	4,208
1945	....	....	....	....	....	....	2	239	533	16	....	1	791
1946	....	10	4	....	....	....	22	227	3,609	1	....	24	3,897
1947	12	2	1	....	....	....	....	217	10,928	10	3	....	†11,173
CHUMS													
1938	*	*	*	*	....	....	....	....	....	1,245	799	73	2,117
1939	2	....	....	....	....	....	....	....	6	700	411	49	1,168
1940	....	....	....	....	....	....	....	....	....	860	835	34	1,729
1941	....	....	....	....	....	....	....	1	....	1,116	4,130	23	5,270
1942	....	....	....	....	....	....	....	....	....	700	1,149	16	1,865
1943	....	....	....	....	....	....	....	....	....	125	623	42	790
1944	1	....	....	....	....	....	....	....	....	191	666	96	954
1945	2	....	....	....	....	....	....	....	2	118	585	20	727
1946	....	....	....	....	....	....	....	....	3	303	809	63	1,178
1947	....	....	....	....	....	....	....	1	2	60	110	....	†173
TOTAL ESCAPEMENT BY MONTHS													
1938	*	*	*	*	30,018	28,414	79,875	69,163	255,142	6,789	1,544	199	471,144
1939	34	31	681	59,568	26,938	36,478	97,550	73,407	196,993	4,471	720	202	497,070
1940	8	96	2,192	41,378	29,825	71,156	161,998	109,228	315,115	6,625	1,447	132	739,200
1941	43	76	3,001	58,192	22,015	31,543	70,528	45,123	418,620	12,644	6,219	467	668,471
1942	5	52	290	13,148	35,087	26,028	74,027	72,224	393,678	7,743	2,354	388	625,024
1943	25	24	697	15,546	57,975	11,529	49,412	61,338	244,142	6,012	1,581	155	448,436
1944	52	159	1,085	21,812	17,370	8,630	41,280	81,687	178,309	8,811	1,978	344	361,517
1945	1,011	1,082	3,157	21,884	28,354	13,909	47,832	73,474	230,415	6,341	1,024	169	428,651
1946	64	563	3,069	24,027	58,861	41,121	106,245	105,750	319,004	6,894	1,241	881	667,720
1947	209	325	2,110	90,409	51,929	86,475	149,667	87,663	321,355	6,921	1,082	....	†798,145

*Data not available. Figures for 1938 are from May 7 to December 31, inclusive. †Eleven-month total.

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Four-Year Cycles of Fraser River-Puget Sound Sockeye Salmon Pack, 1895 to 1947

Statistics, compiled by the Dominion Fisheries Department, represent 48-lb. cases of Sockeyes caught in the Fraser River district of British Columbia and adjacent waters of the state of Washington, whether canned in those districts or elsewhere—and not including other Sockeyes canned in those districts. This accounts in large part for the discrepancy between these statistics and those appearing elsewhere in this issue.

British Columbia	**1895—**	395,984	**1896—**	356,984	**1897—**	860,459	**1898—**	256,101
Washington		65,143		72,979		312,048		252,000
Total		**461,127**		**429,963**		**1,172,507**		**508,101**
British Columbia	**1899—**	480,485	**1900—**	229,800	**1901—**	928,669	**1902—**	293,477
Washington		499,646		228,704		1,105,096		339,556
Total		**980,131**		**458,504**		**2,033,765**		**633,033**
British Columbia	**1903—**	204,809	**1904—**	72,688	**1905—**	837,489	**1906—**	183,007
Washington		167,211		123,419		837,122		182,241
Total		**372,020**		**196,107**		**1,674,611**		**365,248**
British Columbia	**1907—**	59,815	**1908—**	74,574	**1909—**	585,435	**1910—**	150,432
Washington		96,974		170,951		1,097,904		248,014
Total		**156,789**		**245,525**		**1,683,339**		**398,446**
British Columbia	**1911—**	58,487	**1912—**	123,879	**1913—**	719,796	**1914—**	198,183
Washington		127,761		184,680		1,673,099		335,230
Total		**186,248**		**308,559**		**2,392,895**		**533,413**
British Columbia	**1915—**	91,130	**1916—**	32,146	**1917—**	148,164	**1918—**	19,697
Washington		64,584		84,637		411,538		50,723
Total		**155,714**		**116,783**		**559,702**		**70,420**
British Columbia	**1919—**	38,854	**1920—**	48,399	**1921—**	39,631	**1922—**	51,832
Washington		64,346		62,654		102,967		48,566
Total		**103,200**		**111,053**		**142,598**		**100,398**
British Columbia	**1923—**	31,655	**1924—**	39,743	**1925—**	35,385	**1926—**	85,689
Washington		47,402		69,369		112,023		44,673
Total		**79,057**		**109,112**		**147,408**		**130,362**
British Columbia	**1927—**	61,393	**1928—**	29,299	**1929—**	61,569	**1930—**	103,692
Washington		97,594		61,044		111,898		352,194
Total		**158,987**		**90,343**		**173,467**		**455,886**
British Columbia	**1931—**	40,947	**1932—**	65,769	**1933—**	52,465	**1934—**	139,238
Washington		87,211		81,188		126,604		352,579
Total		**128,158**		**146,957**		**179,069**		**491,817**
British Columbia	**1935—**	62,822	**1936—**	184,854	**1937—**	100,272	**1938—**	186,794
Washington		54,677		59,505		60,259		134,641
Total		**117,499**		**244,359**		**160,531**		**321,435**
British Columbia	**1939—**	54,296	**1940—**	99,009	**1941—**	171,290	**1942—**	446,371
Washington		43,511		59,354		110,605		263,458
Total		**97,807**		**158,363**		**281,895**		**709,829**
British Columbia	**1943—**	31,973½	**1944—**	88,515	**1945—**	77,412½	**1946—**	331,292
Washington		19,179		37,509		53,054		280,018
Total		**51,152½**		**126,024**		**130,466½**		**611,310**
British Columbia	**1947*—**	29,110						
Washington		7,323						
Total		**36,433**						

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*Figures for 1947 are approximate only.

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SAN DIEGO FOOT OF 8TH ST.

DAVE C. CAMPBELL, Manager
GEORGE E. CAMPBELL, Secretary

California Canned Fish Packs

Kind of Fish and Can Size	1937 Cases	1938 Cases	1939 Cases	1940 Cases	1941 Cases	1942 Cases	1943 Cases	1944 Cases	1945 Cases	1946 Cases
ALBACORE:										
4-lb. 12s		1,253	2,888	2,341	1,068					
1-lb.	11,744	23,995	29,625	13,275	14,761	3,376	19,715	14,973		
½-lb.	79,202	232,546	309,296	120,063	69,664	235,171	406,020	420,140	480,615	381,271
¼-lb.	213	31,595	14,866	10,062	6,747	958	6	10		
Total Albacore	**91,159**	**289,389**	**356,675**	**145,741**	**92,240**	**239,505**	**425,741**	**435,123**	**480,615**	**381,271**
ANCHOVY:										
½-lb.										749
¼-lb.										801
Total Anchovy										**1,550**
BONITO:										
1-lb.	23,613	33,817	37,187	25,535	47,967	1,022	352		321	2,697
½-lb	100,530	87,469	115,687	50,773	112,078	31,266	34,920	8,490	49,495	105,609
¼-lb.	1,430	942		1,012	1,145		353			
¼-lb. 100s	3,999	3,626	6,216	10,047	15,669					
Total Bonito	**129,572**	**125,854**	**159,090**	**87,367**	**176,859**	**32,288**	**35,625**	**8,490**	**49,816**	**108,306**
CLAMS: ½-lb							**11,131***	**45,206**	**225,431**	**39,944**
CRAB: ½-lb.										**15,195**
MACKEREL:										
1-lb. tall	771,553	878,299	945,686	1,372,274	837,651	601,491	839,312	973,098	587,959	682,896
½-lb. 96s	13,399	70,109	20,243	56,737	4,652	112,699		13,324	1,624	
½-lb	8,624	10,482	2,600	6,031	1,444				34	(a) 33,772
Total Mackerel	**793,780**	**958,890**	**968,718**	**1,435,113**	**843,747**	**614,090**	**839,312**	**986,422**	**589,617**	**716,668**
SALMON:										
1-lb.	147				1,125					248
½-lb								796	4,198	7,935
¼-lb. 100s							1,475	895	1,259	1,634
Total Salmon	**147**				**1,125**		**1,475**	**1,691**	**5,457**	**9,817**
SARDINE:										
No. 10 6s	4,800	8,670	15,180	10,939	9,632	1,106	32,523	71,002	70,310	883
1-lb. oval	1,441,093	1,321,568	1,876,271	1,598,196	2,290,716	1,422,739	1,445,955	1,485,811	1,211,361	725,071
1-lb. tall	869,844	376,859	619,145	648,155	1,963,472	2,006,561	1,679,945	2,052,469	2,431,521	2,245,377
½-lb	25,364	34,166	49,854	26,439	85,131	9,990	28,460	25,578	2,289	54,025
½-lb oval	1,528	4,827	8,129	3,497	3,417					
½-lb. 96s	289,887	277,490	284,368	359,135	362,517	121,324	99,559	59,547	50,634	57,974
½-lb. fillet	74,368	97,277	141,900	151,518	182,703	75,386	44,935	20,584	86,386	10,735
10-oz.	5,098	5,751	12,350	4,021	20,561		3,514		28,992	
5-oz. 100s	268,226	316,733	316,289	382,683	447,952	185,427	46,787	374		
¼-lb.	2,103		148	247	10,079					
¼-lb. 100s	893	128	2,528	3,259	19,104	24,252	18,428	10,292	3,089	8,167
Total Sardine	**2,983,204**	**2,443,469**	**3,326,162**	**3,188,089**	**5,395,284**	**3,846,785**	**3,400,106**	**3,725,657**	**3,884,582**	**3,102,232**
SHAD:										
1-lb.	4,677	7,655	9,193	12,187		20,058	11,516	12,541		
½-lb. roe	1,684	3,589	3,472	3,556	68	4,887				(b) 589
1-lb. roe	100	100	150	100	16				540	
SQUID:										
9 and 7-oz.	5,531	20,167	23,926	34,603	21,587	941		7,701		24,946
1-lb.							112,255	134,107	184,141	618,897
½-lb.							6,982			
Total Squid							**119,237**	**141,808**		**643,843**
SWORDFISH: ½-lb.		445								
TUNA—BLUEFIN:										
1-lb.	18,153	16,971	18,572	31,273	13,319	8,749	2,321	6,070	7,269	
½-lb.	161,345	262,486	169,927	233,853	125,525	249,566	172,544	367,934	290,589	333,001
12-oz.	629	734				179				
¼-lb.	23,017	25,333	15,025	17,739	13,990	1,684				
¼-lb. 100s	12,391	17,674	14,952	30,345	15,868	18,920				
Total Bluefin	**215,535**	**324,198**	**218,476**	**313,210**	**168,702**	**279,098**	**174,865**	**374,004**	**297,858**	**333,001**
TUNA—STRIPED:										
1-lb.	31,162	20,648	21,987	45,536	25,307	11,456	5,837	3,409	1,512	
½-lb.	607,924	296,096	356,289	646,331	328,001	585,098	369,828	360,448	545,525	644,701
¼-lb.	38,952	19,954	25,140	47,974	52,666	101,854	6,275		1,137	3,588
¼-lb. 100s	85,878	36,074	66,154	96,382	27,055	21,166	1,227			
Total Striped	**763,916**	**372,998**	**469,570**	**836,223**	**433,029**	**719,574**	**383,167**	**363,857**	**548,174**	**648,289**
TUNA—YELLOWFIN:										
4-lb. 12s	1,412	2,949	3,095	6,389	4,072	123				
1-lb.	132,653	93,838	121,060	124,750	171,982	24,506	65,457	74,993	81,202	3,761
12-oz.	1,290	1,820	1,467	677	1,565	1,919				
½-lb.	1,249,709	979,228	1,542,474	1,569,534	963,195	691,120	619,122	744,976	1,415,091	2,209,083
¼-lb.	187,164	195,854	221,464	254,750	167,173	32,834	11,416	4	1,698	848
¼-lb. 100s	10,249	10,490	37,732	49,719	17,658	9,406	214	7,510		
Total Yellowfin	**1,582,477**	**1,284,179**	**1,927,292**	**2,005,819**	**1,325,645**	**759,908**	**696,209**	**827,483**	**1,497,991**	**2,213,692**
TUNA—FLAKES:										
1-lb.	11,279	9,006	8,110	19,213	13,525	5,561	4,803	11,876	8,821	12,946
½-lb.	38,765	55,342	64,004	206,770	155,349	145,415	497,712	729,915	539,633	813,847
¼-lb.	394	128	126	1,337	1,675			16,009		
Total Flakes	**50,438**	**64,476**	**72,240**	**227,320**	**170,549**	**150,976**	**502,515**	**757,800**	**548,454**	**826,793**
TUNA—TONNO STYLE:										
½-lb.	11,404	8,193	10,119	22,143	5,322	383	10,401	15,365	16,198	
¼-lb. 100s	126,333	59,211	67,221	162,089	28,516	23,096	16,198			
Total Tonno	**137,737**	**67,404**	**77,340**	**184,232**	**33,838**	**23,479**	**26,599**	**15,365**	**16,198**	
YELLOWTAIL:										
1-lb.	16,513	17,469	6,582	17,428	25,311	2,287	4,530	166		704
½-lb	30,938	52,762	18,032	48,502	96,842	35,105	68,738	19,682	17,336	43,341
¼-lb. 100s				2,552	7,154					
Total Yellowtail	**47,480**	**71,234**	**24,614**	**68,482**	**129,307**	**37,392**	**73,268**	**19,848**	**17,336**	**44,045**
FISH PET FOOD—Miscellaneous	**179,230**	**287,403**	**384,427**	**832,091**	**1,027,903**	**197,403**				
GRAND TOTAL	**6,986,616**	**6,341,557**	**8,021,345**	**9,374,133**	**9,820,485**	**6,941,643**	**6,699,736**	**7,738,949**	**8,346,210**	**9,085,285**
Total Tuna, including Albacore, Bonito, Yellowtail	**3,018,315**	**2,598,732**	**3,305,308**	**2,530,151**	**3,868,394**	**2,242,220**	**2,317,989**	**2,801,970**	**3,456,442**	**4,555,397**

NOTE:—All cases are 48s unless otherwise specified. In a few instances, insignificant quantities of odd sizes have been included with nearest standard containers.
* Combined with Clam Juice. (a) 5¾ oz. size mackerel cans. (b) Includes 296 cases ½-lb. Shad.

TERMINAL ISLAND SEA FOODS, LTD.

TUNA

Sea Knight—Fancy Yellowfin

Sea Mist—Fancy Bluefin

Calistar — Coarse Grated Tuna

Salomar—Striped Tuna

SARDINES

•

MACKEREL

Cannery —

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- Direction Finders
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- Plomb Tools
- Bethanized Wire Rope

Markets for California canned fish were extremely firm at the end of 1947.

This condition was due directly to scarcity in the case of sardines, which were in extremely short production.

Canned tuna, on the other hand, was produced in 1947 in greater volume than ever in history, and was priced at levels never before approached.

Regardless of this fact, the market seemed insatiable and the year ended with no unsold stocks.

CANNED TUNA

While the Southern California tuna industry topped its goal of 5,000,000 cases in 1947, there was no sign as the year ended that the tremendous production approached the saturation point at national consumer level despite record high prices. The facts were that warehouses were as bare of the canned product, in all its grades, at the year's termination as when it began.

Advances in f.o.b. cannery prices, forced by ever-increasing demands by fishermen for higher prices, and by cannery workers for raises in wages, were added to advancing costs of materials. They were readily accepted by the trade, which in turn found little consumer resistance to higher price tags.

The year opened with Fancy Light Meat Tuna quoted at from $14.25 to $15.75, basis 48½s; and grated at an average of $14. This price followed two raw-fish price increases just before 1946 ended.

By October there was a new price structure, f.o.b. coast, as follows:

Fillets, Smoked Natural, White Wine Sauce and Olive Oil

Anchovy in Oil or Tomato

P. P. I. E., San Francisco, 1915 — S. I. E., Philadelphia, 1926
Grand Prize, International Exposition, Paris, France, 1928

Packers of 27 Varieties

STANDARD OVAL AND ROUND PACKS

Skinless and Boneless in Olive Oil

Boneless, Smoked in Olive Oil

French Style in Olive Oil

Standard Pack in Oil or Tomato

HOVDEN
FOOD PRODUCTS CORPORATION

Plants at MOSS LANDING and MONTEREY, CALIF.
General Offices: MONTEREY, CALIFORNIA

MONTEREY CANNING CO.

1918-1948

Packers of

California Sardines — Anchovies (Sardine Style) — Mackerel

Our Brands:

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"DOLORES"
"EL CARMEL"
"SONORA"
"SAN CARLOS"
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Producers of

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MONTEREY, CALIFORNIA

Franco-Italian Packing Co., Inc.

Quality Packers of

CALIFORNIA TUNA — TONNO
SARDINES — MACKEREL

J. M. MARDESICH,
President

TERMINAL ISLAND
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Albacore, fancy, $21; grated, $17.50.

Light Meat, fancy, $16.50; grated, $14.00 to $14.75.

Standard, light meat, $15.50.

Bonito, $13.00 to $13.50.

Yellowtail, $12.50.

The comparatively short pack of Albacore moved rapidly and what was left at the year's end had climbed to $22, fancy, and grated to $18, but with some White Meat held for considerably higher figures.

In late November packers got a jolt from fishermen who suddenly demanded a fish price increase of $40 per ton for Yellowfin and Striped. The demand was compromised for a $30 per ton raise. Immediately this raised the case price $1, hiking Light Meat Fancy to an average $17.25 and grated to $15. No advance was made on bonito or yellowtail, as these were not involved.

Again packers found the trade accepting the increase without complaint and demand for canned tuna continued strong and firm. There were some fears the last raw-fish increase would be the one to stem the flow of the product and begin to back it up in packers' warehouses.

The raise came so late in the year that it was not possible to make an accurate appraisal of the market situation. It was generally felt, however, if the retail level increase was only 2c or 3c per can, no increased sales resistance would be felt.

The trade believed consumer demand would continue until meat prices show a decrease, the pack becomes much greater than in 1947, or economic conditions show a sharp downward trend.

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Fears that grated might become the "weak sister" of the tuna pack were not realized. Grated gained momentum as the year progressed after a faltering earlier in the year. However, in this regard, it must be remembered that 1947's grated production was considerably less than in 1946, when packers in some cases were grating whole fish, which was not the general practice last year.

The tremendous pack of bonito, greatest in the industry's history, moved without trouble. In fact it was readily saleable everywhere it was offered, and particularly in the eastern metropolitan markets. It was still in demand at year's end. Packed only standard, it was acceptable in many cases above grated tuna, because of a price advantage. The institutional trade was particularly firm for bonito.

Advertising programs over the sales field nationally were mostly confined to exploitation of brand names. Van Camp Sea Food Co., Westgate Sea Products Co. and French Sardine Co., etc., followed a general institutional pattern. Sun Harbor Packing Co. conducted an interesting experiment in its local territory of San Diego testing ideas which later may be used in its national advertising.

CALIFORNIA SARDINES

Big problem of the California sardine industry today is production—not markets.

Distributors see no prospect of any change in this condition even if sardine production should be better for the next several years. There appears to be a big inventory vacuum. For example, in years past the market has absorbed roughly 3,500,000 or more cases of California sardines. In 1946 the pack was below 3,000,000 cases, and 1947's pack even less.

On the other hand, demand is greater than before the war. For example, the Netherlands East Indies are back in the picture again, and last summer and fall they were desperately trying to buy canned fish, particularly sardines in 1-lb. ovals with tomato sauce. This mar-

Tuna Prices Per Ton Paid Fishermen

Year	Albacore	Yellowfin	Bluefin	Skipjack
1917	$30	$50	$45	$40
1918	125	90	80	40
1919	200	90	80	40
1920	300	90	80	40
1921	145	80	80	60
1922	250	100	80	60
1923	300	80	75	60
1924	360	80	80	60
1925	200	80	80	60
1926	175	110	110	75-80
1927	Nominal	110	90	75
1928	$200 up	120	90	75
1929	300	120	110	70-80
1930	200	120	110	90
1931	200	120-100	90	90-80
1932	200	80	75	70
1933	200	100	90	80
1934	200	100	90	80
1935	125-160	100	90	80
1936	Nominal	105-110	95-90	85-90
1937	215	120	110	100
1938	215-130	120	110	100
1939	125	110	100	90
1940	140	110	110	100
1941	140	110-130	110-120	100-110
1942	300-400	190	180	170
1943	325	200	190	180
1944	325-390	200	190	180
1945	390	200	190	180
1946	390-440	200-280	190-270	180-260
1947	410-600	310-340	300	290-320

Note—Prices quoted are per ton of round fish in good condition landed at cannery dock. All fish rejected by inspectors, either as landed or after precooking, are deducted from the gross weight.

Figures given undertake to state the prevailing market level. Where a range in prices is shown it represents a definite change in market level in the course of the season, the movement being from the first to the second figures stated. Quotations for 1943 through 1945 are OPA ceiling prices for cannery fish, and represent the total amounts which may be paid the fishermen in cash or allowances, save for the cost of war-risk insurance. The lower figures in 1946 are ceiling prices and the higher represent levels attained after removal of OPA controls.

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MONTEREY, CALIFORNIA

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Packers of Quality Sea Products
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"Sea Jewel"—"Don Palma" BRANDS
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Monterey, Calif., Phone: 3203

ket has been forced to accept substitutes.

From this and other indications, marketing authorities estimate there must be an inventory vacuum of at least a couple of million cases. In the meantime, the northern California sardine industry has been packing anchovies, horse mackerel, herring and summer pack sardines in the 8-oz. oblong can.

These are items that packers wouldn't bother with ordinarily, observers say, since the volume is necessarily small.

When sardines went out from under OPA price control in October, 1946, there were a few sales of ovals in tomato sauce at $14 per case, but these were largely fish in the hands of second sellers. There was not much activity in the sardine market during the spring of 1947.

Monterey fish canners went into the summer pack of sardines in 8-oz. oblong cans, and these sold $7.50-$8.00 per case for export. Buyers of canned sardines were not too eager for future-pack sardines during this period, being somewhat cagey.

In July there was not much interest in sardines in 1-lb. ovals in tomato sauce @ $11 per case for export. Later on, $10 seemed to be about right, and there was increasing activity in future-pack sardines, when the price settled around $10.75 for domestic sales. Sardines were selling for around $7.50 for 1-lb. talls, natural, with 1-lb. talls, tomato sauce, going for $8.50. Interest was pretty fair.

By October, 1947, when the southern California catch came on the market there was considerable confusion in the canned sardine market. Ovals opened there from $9.50 to $11.00; 1-lb. talls, natural, $7-$7.50 and 1-lb. talls in tomato sauce $8-$9.

With the falling off of the southern California catch, and the complete failure of the northern California catch, the situation became so tight that one canner after another withdrew from the market, until by the end of the year, ovals could readily be sold for $12.50 for export.

At these prices, observers state that the domestic market is not snapping at any chance to buy California sardines. At the end of the year all the sardines left were in resale lots. Although trading was inactive in volume there was much interest shown.

To observers, the California canned sardine still appears to be the cheapest canned fish available that has consumer acceptance.

CANNED MACKEREL

Southern California's more than one million cases of canned mackerel in 1947 had necessarily to be offered to the trade at the highest quoted prices in history. While the more-favored Pacific mackerel moved quickly away from cannery warehouses, there was considerable hesitancy in the ill-named horse variety.

As the heavy-pack season opened in the fall, the average quotation for Pacific was $8.50 per case, basis 48 1s tall. A sharp raise of $15 per ton for raw fish in early December forced quotations to $9. Horse mackerel was offered at $8.50, a price at which consumer resistance was reported and the canned product began to accumulate in warehouses. The only real flow of horse mackerel was in the export trade.

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Markets for Pacific canned shellfish generally softened during the first months of 1947, only to take on much firmer character after the middle of the year.

Going into 1948, demand was good and prices fairly firm, although distributors admittedly were questioning the effect of high prices on consumer acceptance, as well as the impact of imports from the Orient upon American markets.

CANNED CRAB

Pacific canned crab prices at the start of 1947 were at the $30 level, with some packers asking $32. Buyers rebelled at these figures and sharp mark-down followed, with the price falling to $20 before volume selling occurred. The main movement was at the $20 price, although selling occurred in some volume as low as $18, with a very little below that mark.

This sharp revision in pricing stimulated demand and produced a rather surprising piece of export business with Belgium, about 5,000 cases going to that country. This was a new outlet, and sellers do not anticipate that the trading will develop again in 1948.

By mid-summer, when some of the largest buyers in the country sought to place their orders, the market was cleaned-up of all except a few spot lots. The market advanced, and these minor parcels commanded $25.

Mid-way in the spring season the Food and Drug Administration announced that it would require thereafter that Pacific canned crab in halves have a drained weight of 6½ oz., regardless of the declared net weight.

The effect of this ruling was to force-up the average cost of packing Pacific crab.

At presstime for this Yearbook, negotiations were under way between packers and fishermen on Grays Harbor and Willapa Harbor as to the price for crabs during the 1948 season. Fishermen were demanding $3.50 per dozen crabs, ocean run, and the packers were offering $2.25.

Settlement was anticipated nearer the lower figure, for the operators were believed to be offering near their limit. Expectations were that the Pacific canned crabmeat price for new-pack would be about $23.

Admittedly, the price of American goods may be beaten-down by Japanese imports. Even before American canning started in 1948, substantial quantities of Japanese canned crab had arrived at Pacific ports, both Seattle and San Francisco having had shipment. Prices cannot be directly compared with those of American goods, as the Japanese product is packed in a somewhat larger can, but the early offering was at $54 per case of 96 halves. This figure was shaded to $52 by some sellers.

The crab was packed under the old-time labels, and purchases were being made again from the old "Zaibatsu" companies, Mitsui and Kitsubishi—of course under permit from the American occupation authorities.

Fishermen, operators and distributors were carefully watching the reaction of the American public to the reappearance of Japanese-packed crab on the American market to the displacement of the American article.

RAZOR CLAMS

Washington and Alaska razor clam canning in the spring of 1947 was predicated upon a selling price of $12, and some of the pack did move at these figures. However, the market was shaken by the offering of 4,000 to 5,000 cases of Alaska goods at $9 per case. The majority of the pack of standard grade goods sold at $11, and that figure ruled at the opening of 1948. At that time, however, the distributors generally believed the market would advance.

This feeling was based largely upon the disposition of the diggers, who were not expected to work for less than they got in 1947. Moreover, there was every indication that the demand for clams for purposes other than canning would be greater than usual in the spring of 1948, and that this would serve to curtail the volume of the Washington production.

The Alaska pack of 1948 can be counted upon as normal, but regulatory quotas will prevent its rising above the outputs of recent seasons.

California packing of Pismo clams imported from Mexico is believed to have ceased.

Alaska and Pacific Northwest canning of hardshell clams has been limited, and the market not particularly attractive.

PACIFIC OYSTERS

Pacific canned oysters were scarce going into 1948, and would certainly remain so, as all canning stock must come from the old crops, which have been heavily drained during the several successive years of poor spawning and suspended seed imports.

The heavy seeding of 1947 will

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not come into maturity for some years.

At the start of 1948 the price for Pacific Oysters in No. 1 E. O. tins was $16 per case for 6 to 8 count. A limited production of one packer was said to be offered at $14 per case. Few No. 1 talls were being packed, the Pacific industry having switched its package almost entirely to the standard oyster tin.

Distributors reported a demand well in excess of supply, partially as result of the 1947 fall hurricane damage to Gulf of Mexico oyster canning operations.

CANNED SQUID

Pre-war, the only market for California canned squid was Greece, and only two or three Monterey canners were interested in putting up a pack. The Philippine market was flooded with Japanese squid, and American squid couldn't compete there.

The future of canned California squid is limited, most market observers believe, even if we now get all the business there is. To these observers, it doesn't appear that there is a market for more than 200,000 cases per year. However, the truth of the matter won't be known until we again get a normal sardine and Chum salmon pack.

During the spring of 1947 canned squid was selling for about $4 per case, later it dropped to $3.50, with packers showing little interest in canning it at any lower price. That level was maintained until November of 1947 when the United States government came in for a block of 50,000 cases which cleaned up the spot stock. Fall fishing for squid was slack, and so as the year ended demand exceeded supply again.

FROZEN SHRIMP

Mexican frozen shrimp, produced from the Gulf of California and frozen in highly modern plants at Guaymas, Topolobampo, Hermosillo and elsewhere, are commanding more and more interest from the American consumer.

The strong market for these frozen shrimp, which are believed to be the largest shellfish of their kind marketed in the United States, persisted through 1947 in spite of a steadily increasing production.

Most of these shrimp from Mexico's Gulf of California are marketed in the United States under the "Ocean Garden" brand.

Just before the end of 1947, Mexican shirmp interests let contracts in San Diego for the construction of eight modern steel trawlers to be used in expanding the shrimp fisheries of the Gulf of California.

Immediately after the shrimp are taken from the water they are headed and veined, and then packed in crushed ice in the hold of the vessel until delivery at the plants. Vessels discharge frequently, and the shrimp tails are put into the freezing chambers within a short time after they leave the water.

After freezing in blocks of 5 lbs. each, the shrimp are packed in heavily waxed cartons and held under refrigeration until marketed.

CALIFORNIA FISH CANNING PLANTS

In the table below, the company name is followed by that of the president, principal owner, or managing director. Location given is that of the plant, not necessarily that of the company headquarters. This is followed by one or more letters indicative of the plant products. These products are represented as follows: (a) canned sardines; (b) canned tuna; (c) canned mackerel; (d) other canned fish products.

SAN FRANCISCO DISTRICT

American Sardine Co., Matt Martin........Benicia (a)
Benicia Food Products Co., V. B. Alioto........Benicia (a)
Bell Smoked Fish Co., Joe Tarantino........San Francisco (b, d)
Bering Sea Codfish Co., Joe Balestrieri........San Francisco (b)
F. E. Booth Co., Inc., A. H. Mendonca........San Francisco (a, b)
East Bay Fisheries, F. J. Mullins........Pt. San Pablo (d)
Hickmott Canning Co., J. H. Dempsey........Antioch (d)
J. D. Packing Co., J. A. Davi........San Francisco (a)
Keystone Fisheries, Inc., A. G. Magnuson........San Francisco (a, b)
Tom Lazio Fish Co., Tom Lazio........Eureka (a, d)
Northern Packing Corp., George Christo........San Francisco (a)
Pacific Sea Products, Ben Nichelsen........San Francisco (b)
Paul's Cannery, Chester J. Paul........Crescent City (d)
Princeton Packers, A. M. Patrick........Princeton (a, b, d)
Red Rock Fisheries, J. H. Dempsey........Pt. San Pablo (a)

MONTEREY DISTRICT

Ace Packing Company, F. W. Carlson........Moss Landing (a)
Aeneas Sardine Products, Frank E. Lucido........Monterey (a)
Atlantic Coast Fisheries Co., Leon White........Monterey (a, c)
Calif. Frozen Fish. Co., Sal Ventimiglia........Monterey (a)
Calif. Packing Corp., Don T. Saxby........Monterey (a)
Carmel Canning Co., J. R. Perry........Monterey (a)
Custom House Packing Co., F. J. Leard........Monterey (a)
Del Mar Canning Co., Edward David........Monterey (a)
Edgewater Packing Co., C. J. Broad........Monterey (a)
Enterprise Packers, Sebastian Sollecito........Monterey (a)
Hallmark Fisheries, Earl Hallmark........Eureka (d)
Hovden Food Products Corp., K. Hovden........Monterey (a, c, d)
Hovden Food Products Corp., K. Hovden........Moss Landing (a)
Monterey Canning Co., George Harper........Monterey (a)
Oxnard Canners, Inc., S. A. Ferrante........Monterey (a, c)
Peninsula Packing Co., G. M. Dollar........Monterey (a, c)
San Carlos Canning Co., Angelo Lucido........Monterey (a, c)
San Xavier Fish Packing Co., F. E. Raiter........Monterey (a, b, c)
Sea Beach Packing Co., Sal Palma........Monterey (a)
Sun Harbor Packing Co., E. W. Robinson........Monterey (a)

SAN PEDRO DISTRICT

Cal-Cap Fisheries, Tony Ostoich........Wilmington (a, b, c, d)
California Sea Food Co., Meyer Simon........Long Beach (a, b, c)
Coast Fishing Co., J. R. Biven........Wilmington (a, b, c, d)
Golden Gate Sea Food Co., Robert O. Gruwell........Long Beach (a, c, d)
Franco-Italian Packing Corp., Jos. Mardesich........Terminal Island (a, b, c, d)
French Sardine Co., Joseph J. Bogdanovich........Terminal Island (a, b, c, d)
Laguna Packing Corp., F. M. Shepard........Wilmington (a, c, d)
Newport Canning Co.,. W. Gregory Gorby........Newport Beach (a, b, c)
Pan-Pacific Fisheries, Inc., R. L. Puccinelli........Terminal Island (a, b, c, d)
Seaside Fisheries Co., Harry H. Steele........Long Beach (a, c)
South Pacific Canning Co.,. M. D. Marsh........Long Beach (a, b, c, d)
Southern California Fish Corp., Wilbur Wood........Terminal Island (a, b, c, d)
South Coast Fisheries, Inc., Peter A. Kuglis........Terminal Island (a, b, c)
Terminal Island Sea Foods, Ltd., Herbert C. Davis........Terminal Island (a, b, c, d)
Van Camp Sea Food Co., Gilbert C. Van Camp, NK,. IN & CP Plants........Terminal Island (a, b, c, d)
West Coast Packing Corp., Albert Vignolo........Long Beach (a, b, c, d)
West Coast Packing Corp., Roy Rush........Newport Harbor (a, c)
Western Canners, Inc., W. M. Longmoor........Newport Harbor (a, c)

SAN DIEGO DISTRICT

High Seas Tuna Packing Co., Earl Nielson........Point Loma (a, b, c)
People's Packing Corp., Louis C. Strada........San Diego (b)
San Diego Packing Co.,. John Thomsen........San Diego (a, b)
Sun Harbor Packing Co., Jack Crivello........San Diego (b)
Van Camp Sea Food Co., Bates Harper........San Diego (b)
Westgate Sea Products Co., W. Wade Ambrose........San Diego (a, b, c)

LOWER CALIFORNIA (MEXICO)

Cia Productos Marinos, Romeo Jimenez........Cape San Lucas (b, d)
Pesquera del Pacifico S. de R. L., J. A. Morales, Jr., Francisco Alvarez........Sauzal (a, b, c, d)
Pesquera del Pacific S. de R. L., Luis Ojeda Mielson........Cedros Islands (c,)d
La Industrial de Ensenada, Arturo Paredes........Ensenada (a, b, c, d)
Industrial Maritimay, Mercantil, S. A........Turtle Bay (d)

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Five Million Cases — for years the production goal of the California tuna industry — was attained, and far exceeded in 1947.

The pack of 5,269,618 cases exceeded the previous record — established in 1946 — by more than three-quarters of a million cases. Moreover, the great pack was entirely sold at the end of the year.

The new record was established as result of a vast increase in fishing effort, with the fleet at its all-time peak in numbers and efficiency.

A lot of factors entered into California's new tuna record of 5,269,618 cases, canned in 1947.

Most of all, there was the great increase in fishing effort, with the tuna clipper fleet at its peak in number of vessels and efficiency; and there was the exceptional size and success of the tuna purse seining operations.

Fishing was not of the best, but the accelerated fishing effort got results.

Again, there was exceptional production of bonito, which was delivered at the Los Angeles Harbor area canneries in volume far exceeding that of any previous season.

The Harbor area packed in excess of 2 million cases in 1947 for the first time in its history; and San

1947 — SAN DIEGO TUNA PACK BY MONTHS — 1947

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total
Albacore:													
1-Lb. Flats	....	....	....	....	....	....	80	633	....	....	....	....	713
½-Lb. Flats	....	....	....	....	....	5,953	33,569	77,725	11,434	13,285	2,348	....	144,314
Total	....	....	....	....	....	**5,953**	**33,649**	**78,358**	**11,434**	**13,285**	**2,348**	....	**145,027**
Bonito													
1-Lb. Flats	....	....	....	....	....	....	....	268	....	....	147	....	415
½-Lb. Flats	1,524	1,704	435	388	83	31	8,682	1,482	1,054	2,041	1,175	....	18,599
Total	**1,524**	**1,704**	**435**	**388**	**83**	**31**	**8,682**	**1,750**	**1,054**	**2,041**	**1,322**	....	**19,014**
Bluefin:													
½-Lb. Flats	....	....	....	....	....	227	3,976	2,265	88	....	....	....	6,556
Skipjack:													
1-Lb. Flats	....	....	571	12	....	....	....	....	218	....	....	....	801
½-Lb. Flats	11,382	28,065	35,596	23,009	35,521	57,082	91,635	77,177	111,439	146,598	49,349	31,600	698,453
Total	**11,382**	**28,065**	**36,167**	**23,021**	**35,521**	**57,082**	**91,635**	**77,177**	**111,657**	**146,598**	**49,349**	**31,600**	**699,254**
Yellowfin:													
1-Lb. Flats	....	....	352	1,689	1,425	....	3,091	1,386	....	2,121	1,850	....	11,914
½-Lb. Flats	88,605	100,876	135,139	131,177	211,477	229,407	274,488	117,006	142,562	112,746	83,775	214,600	1,841,858
Total	**88,605**	**100,876**	**135,491**	**132,866**	**212,902**	**229,407**	**277,579**	**118,392**	**142,562**	**114,867**	**85,625**	**214,600**	**1,853,772**
Yellowtail:													
1-Lb. Flats	....	....	....	....	....	....	....	....	....	812	1,004	....	1,816
½-Lb. Flats	708	1,915	696	839	1,032	1,127	1,654	4,131	5,227	7,540	7,476	3,880	36,225
Total	**708**	**1,915**	**696**	**839**	**1,032**	**1,127**	**1,654**	**4,131**	**5,227**	**8,352**	**8,480**	**3,880**	**38,041**
Tuna, flakes:													
1-Lb. Flats	....	521	789	1,358	....	681	204	539	369	312	125	....	4,898
½-Lb. Flats	18,220	20,659	26,093	29,094	19,649	40,015	39,908	28,112	21,685	30,011	18,246	31,260	322,952
Total	**18,220**	**21,180**	**26,882**	**30,452**	**19,649**	**40,696**	**40,112**	**28,651**	**22,054**	**30,323**	**18,371**	**31,260**	**327,850**
Tonno:													
½-Lb. Flats	....	....	6,503	759	1,412	2,927	782	1,296	1,500	2,792	5,633	....	23,604
Grand Total	**120,439**	**153,740**	**206,174**	**188,325**	**270,599**	**337,450**	**458,069**	**312,020**	**295,576**	**318,258**	**171,128**	**281,340**	**3,113,118**

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Diego production went above 3 mil-ion for the first time, leading its ival port by almost exactly 1 mil-ion cases.

The Southern California tuna fleet, both clippers and purse seiners, began the year 1947 with the highest peak for raw fish ever reached: Yellowfin $310 per ton, Bluefin $300, and Striped $290. Before 1947 ended, Yellowfin had climbed to $340 and Striped to $320. Albacore was scaled originally at $410; but, before the season was in full swing, as high as $550 per ton was paid. The average was around $500. In northern waters Albacore sold as high as $600.

Because of the number of hook-and-liners at sea over the holidays, January, 1947, produced 2,360 tons at San Diego for 110,602 cases. Los Angeles harbor, always a slow starter, received 441 tons and packed 18,822 cases.

In spite of high production costs, demand for canned tuna never slackened during 1947. As quickly as it was produced, the tuna was shipped across the nation. Thus the industry began and ended the year with warehouses clean of the packed product.

After O.P.A. price ceilings were removed a wide fluctuation occurred in quotations, f.o.b. coast. Major canners had temporarily withdrawn quotations, but as the year 1947 started Fancy Light Meat was moving at $15.75, basis 48-½s. Salad oil had doubled after removal of ceilings, from 14½c per lb. to 28c for soybean. The more expensive cottonseed oil did not recapture the tuna canning market.

Highlights in the fleet during January were the installation of a scouting seaplane on the clipper *Liberator;* maiden voyage of the clipper *Katie Lou,* and arrival of the new steel clipper *Commander* to begin her fishing career, from the Northwest.

Purse Seining Season Starts Early

Purse seiners from Los Angeles harbor started Mexican cruises early. The *San Francisco* made two quick trips to Guadalupe Island, with successive 100-ton fares of Bluefin. *Spartan* came back with 150 tons, and *Cavalieri* with 72 tons. This started a rush of net vessels south. Many, however, failed to find Bluefin at Guadalupe and continued on south. Before the season ended slightly more than 300 trips had been made by the purse seine fleet south of the border. For the first 10

CALIFORNIA PACK OF CANNED TUNA AND RELATED FISHES
1912 to 1947

Year	San Pedro District							San Diego District							Grand Total, (Cases)	Year
	Yellowfin Tuna (All Sizes)	Bluefin Tuna (All Sizes)	Striped Tuna (All Sizes)	Albacore (All Sizes)	Tonno, Italian Style (All Sizes)	Yellowtail▲ Bonito, etc. (All Sizes)	Total (Cases)	Yellowfin Tuna (All Sizes)	Bluefin Tuna (All Sizes)	Striped Tuna (All Sizes)	Albacore (All Sizes)	Tonno, Italian Style (All Sizes)	Yellowtail, Bonito, etc.▲ (All Sizes)	Total (Cases)		
1912	...	...	...	...	...	...	...	...	...	...	...	...	...	...	75,900*	1912
1913	...	...	...	...	...	...	...	...	...	...	...	...	...	...	77,500*	1913
1914	...	...	...	...	...	...	...	...	...	...	...	...	...	...	217,000*	1914
1915	...	...	...	...	...	...	...	...	...	...	...	...	...	...	237,365*	1915
1916	315,880	**	**	82,593	...	6,457	404,930	71,062	**	**	13,593	...	245	84,900	489,830	1916
1917	382,273	...	...	118,769	...	11,928	512,970	140,563	...	...	17,261	...	12,746	170,570	683,540	1917
1918	228,241	...	...	82,801	...	87,110	398,152	50,129	...	...	...	...	73,072	123,201	521,353	1918
1919	487,812	...	...	144,383	...	65,008	697,203	62,318	...	...	47,869	...	24,572	134,759	831,962	1919
1920	668,012	...	...	§	...	1,534	669,546	167,633	...	...	§	...	1,623	169,256	838,802	1920
1921	72,410	...	...	255,194	...	...	327,604	27,869	...	...	82,157	...	48	110,074	437,678	1921
1922	334,733	...	...	166,496	...	3,651	504,880	129,349	...	...	27,269	...	23	156,641	661,521	1922
1923	312,187	...	...	209,591	...	17,803	539,581	224,315	...	...	88,014	...	4,869	317,198	856,779	1923
1924	134,497	...	...	278,855	60,051	53,350	526,753	27,207	...	...	106,958	8,987	2,395	145,547	672,300	1924
1925	323,422	...	...	358,940	59,440	56,709	798,511	187,909	...	...	95,007	9,646	2,290	294,852	1,093,363	1925
1926	380,174	...	...	51,223	90,689	57,466	579,552	188,649	...	...	14,578	40,864	15,416	259,507	839,059	1926
1927	389,172	...	...	105,783	196,875	47,199	739,029	436,700	...	...	20,916	10,221	20,147	487,984	1,227,013	1927
1928	481,445	...	...	99,093	106,038	27,844	714,420	473,704	...	...	658	11,783	9,798	495,943	1,210,363	1928
1929	402,526	...	...	130,212	88,454	51,987	673,179	710,926	...	...	2,426	31,351	23,162	767,865	1,441,044	1929
1930	658,728	...	...	143,748	57,110	73,049	932,635	950,461	...	...	1,783	17,875	17,635	987,754	1,920,389	1930
1931	394,668	...	...	144,796	35,514	52,960	627,938	506,995	...	...	177	706	9,597	517,475	1,145,413	1931
1932	275,263	8,510	101,626	52,215	42,247	45,865	525,726	403,050	177	203,381	...	...	15,655	622,263	1,161,151	1932
1933	258,982	7,580	74,728	49,391	41,200	30,188	455,969	678,810	1	198,313	...	...	30,409	907,533	1,363,502	1933
1934	317,846	325,350	71,350	82,182	35,163	61,363	858,271	780,066	6,683	195,798	...	...	31,509	1,014,236	1,872,507	1934
1935	306,202	413,630	88,746	107,501	88,660	142,112	1,139,851	948,276	24,871	249,747	4,648	545	108,778	1,336,876	2,476,727	1935
1936	343,234	311,987	184,930	53,849	57,797	95,310	1,047,107	1,074,811	22,390	295,330	35	740	146,769	1,534,075	2,586,182	1936
1937	416,611	188,432	276,165	83,123	136,612	123,405	1,224,348	1,165,866	27,103	487,751	8,036	1,125	104,086	1,793,967	3,018,315	1937
1938	273,365	273,358	151,081	265,034	67,404	166,362	1,196,604	1,010,814	49,840	221,917	24,355	...	95,202	1,402,128	2,598,732	1938
1939	578,727	191,456	212,042	281,666	70,022	192,355	1,526,268	1,348,565	27,020	257,528	46,372	7,318	63,599	1,750,403	3,305,308	1939
1940	536,391	267,343	306,447	122,484	124,094	191,485	1,548,244	1,469,428	45,867	529,776	19,304	60,138	191,684	2,316,197	3,868,394	1940
1941	308,886	136,333	109,563	73,024	33,530	202,380	863,716	1,016,759	32,369	323,466	10,145	308	274,365	1,657,412	2,530,199	1941
1942	214,391	250,685	128,980	128,670	23,479	74,422	820,627	545,517	28,413	590,594	104,578	...	146,234	1,415,336	2,235,963	1942
1943	303,881	162,844	88 203	187,052	17,239	217,143	976,362	392,114	12,021	294,964	227 347	...	394,265	1,320,711	2,308,416	1943
1944	341,687	357,531	105,863	125,632	15,365	255,456	1,201,534	485,796	16,473	257,994	307,806	...	537,889	1,605,958	2,807,492	1944
1945	460,982	275,116	89,279	148,286	16,198	486,920	1,476,781	1,037,009	22,742	458,895	329,251	...	128,686	1,976,583	3,456,442	1915
1946	595,918	284,794	181,425	152,033	...	672,734	1,886,904	1,502,188	28,753	448,723	233,629	...	270,109	2,483,402	4,370,306	1946
1946	663,814	304,248	202,729	141,629	...	646,615	1,959,035	1,549,557	28,753	445,560	233,622	...	332,529	2,590,021	4,555,397	1946
1947	719,211	336,208	200,955	131,889	7,402	760,835	2,156,500	1,853,772	6,556	699,254	145,027	23,604	384,905	3,113,118	5,269,618	1947

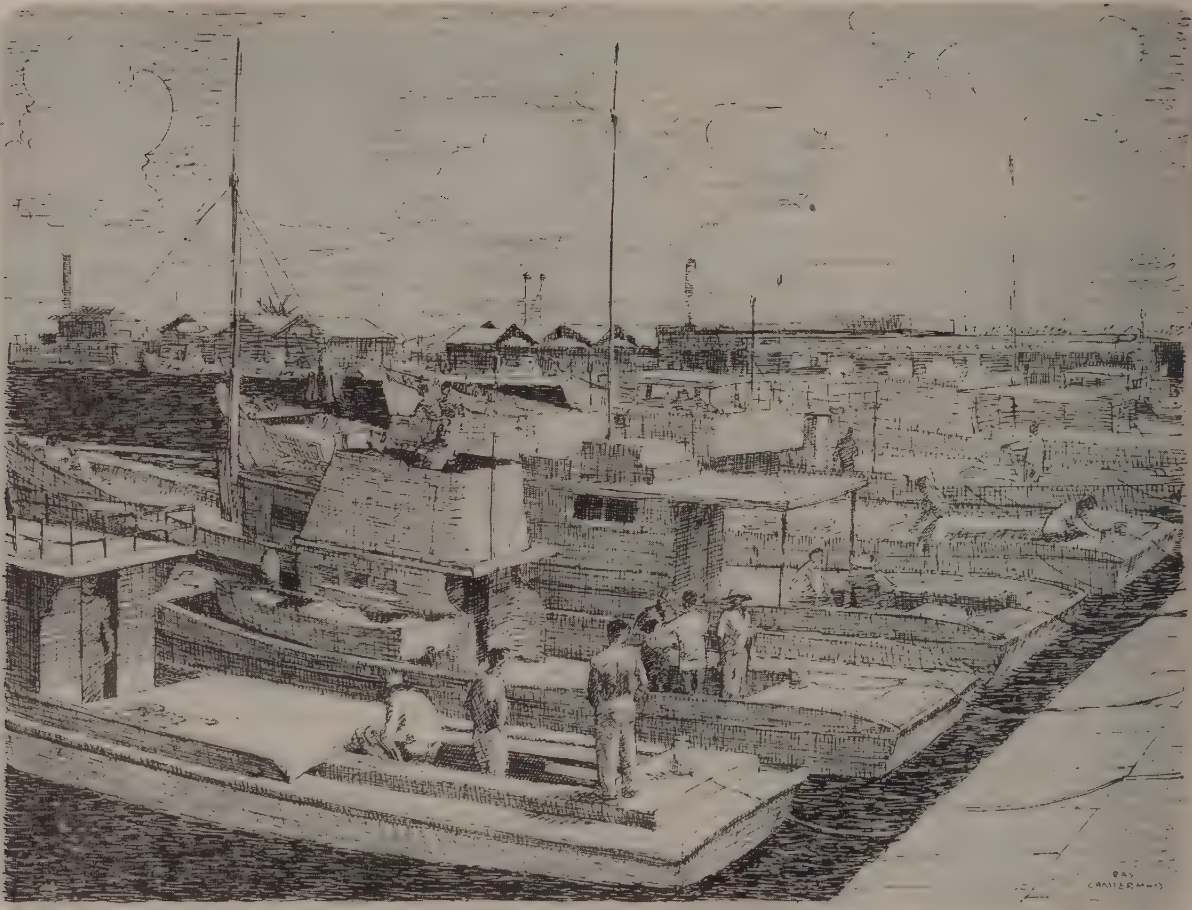
*No detailed figures available prior to 1916. Totals of these years estimated on basis of 48 lbs. net to the case.

**From 1916 to 1931, inclusive, Bluefin and Striped tuna were included with Yellowfin.

§Included under other heads.

†Figures for 1947 are preliminary totals from official sources. The segregation of the pack into species is approximate only, being based upon the landings of raw fish of the several varieties. Figures for previous years have been corrected according to the official statistics of the California Division of Fish and Game, and cover full calendar years. Figures for the table as a whole cover actual cases of various can sizes, with the great majority cases of 48 half-pound flats. ▲Includes tuna flakes.

Note:—Grand totals include minor quantities canned at Monterey, in addition to district totals given. These Monterey-canned quantities are: 1932—13,162 cases; 1939—28,637 cases; 1940—3,953 cases; 1941—9,071 cases; 1942—6,212 cases; 1943—11,343 cases; 1944—596 cases; 1945—3,078 cases; 1946—3,219 cases. The grand total for 1946 also includes 2,801 cases of Albacore and 321 cases of Yellow fin canned in the San Francisco district.



FISHERMAN'S WHARF . . . HONOLULU, HAWAII

IN HAWAII all signs point toward a good year for the tuna industry. New boats have joined the tuna fleet and cannery facilities have been improved to handle increased production. This means that we should be able to make shipments soon to our regular customers . . . that once again our fine, high quality pack of Hawaiian tuna will be in most major markets.

HAWAIIAN TUNA PACKERS, LTD.

1947—California Receipts of Tunas by Months and Districts—1947

Species	JANUARY			FEBRUARY			MARCH		
	San Pedro Pounds	San Diego Pounds	Total Pounds	San Pedro Pounds	San Diego Pounds	Total Pounds	San Pedro Pounds	San Diego Pounds	Total Pounds
Albacore									
Bonito	80,087	75,814	155,901	144,321	87,726	232,047	36,455	33,144	69,599
Bluefin				794,393		794,393	1,337,557		1,337,557
Skipjack	2,876	572,859	575,735	290,036	1,498,901	1,788,937	335,393	1,834,099	2,169,492
Yellowfin	563,003	5,019,386	5,582,389	1,169,436	5,859,380	7,028,816	1,661,082	8,625,066	10,286,148
Yellowtail	39,492	39,198	78,690	142,550	158,189	300,739	49,655	83,730	133,385
Total	**685,458**	**5,707,257**	**6,392,715**	**2,540,736**	**7,604,196**	**10,144,932**	**3,420,142**	**10,576,039**	**13,996,181**

Species	APRIL			MAY			JUNE		
Albacore	18,043		18,043				71,498	330,517	402,015
Bonito	560	13,864	14,424	29,834	6,334	36,168	1,986,579	2,299	1,988,878
Bluefin	453,867		453,867	258,161		258,161	171,675	9,621	181,296
Skipjack	642,963	1,150,232	1,793,195	1,301,145	2,065,526	3,366,671	1,796,026	3,481,227	5,277,253
Yellowfin	7,831,059	7,098,573	14,929,632	10,280,381	12,093,841	22,374,222	9,886,381	13,137,202	23,023,583
Yellowtail	3,619	49,037	52,656	308,429	77,605	386,034	514,676	72,981	587,657
Total	**8,950,111**	**8,311,706**	**17,261,817**	**12,177,950**	**14,243,306**	**26,421,256**	**14,426,835**	**17,033,847**	**31,460,682**

Species	JULY			AUGUST			SEPTEMBER		
Albacore	1,011,990	1,866,283	2,878,273	2,976,899	3,443,899	6,420,798	(a) 668,755	472,156	1,140,911
Bonito	7,014,656	486,334	7,500,990	1,953,927	129,846	2,083,773	764,792	63,689	828,481
Bluefin	1,913,811	196,132	2,109,943	7,151,694	108,118	7,259,912	5,555,730	29	5,555,759
Skipjack	938,916	5,085,941	6,024,857	3,971,375	4,330,052	8,301,427	1,536,135	6,449,309	7,985,444
Yellowfin	4,962,420	13,797,022	18,759,442	3,186,017	7,035,077	10,221,094	2,068,900	7,748,715	9,817,615
Yellowtail	1,156,581	166,970	1,323,551	2,427,444	256,745	2,684,189	341,534	364,337	705,871
Total	**16,998,374**	**21,598,682**	**38,597,056**	**21,667,356**	**15,303,737**	**36,971,093**	**10,935,846**	**15,098,235**	**26,034,081**

Species	OCTOBER			NOVEMBER			DECEMBER			1947 TOTAL		
	SanPedro Pounds	SanDiego Pounds	Total Pounds	SanPedro Pounds	SanDiego Pounds	Total Pounds	SanPedro Pounds	SanDiego Pounds	Total Pounds	SanPedro Pounds	SanDiego Pounds	Total Pounds
Albacore	(b)1,188,809	570,581	1,759,390	(d) 212,603	35,554	248,157				**6,148,597**	**6,718,990**	**12,867,587**
Bonito	233,971	119,390	353,361	15,702	114,976	130,678				**12,260,884**	**1,133,416**	**13,394,300**
Bluefin	(c)1,251,670		1,251,670	(e) 134,273		134,273				**19,022,831**	**313,900**	**19,336,731**
Skipjack	1,582,610	8,358,106	9,940,716	458,402	2,969,375	3,427,777	76,000	1,580,000	1,656,000	**12,931,877**	**39,375,627**	**52,307,504**
Yellowfin	1,406,713	6,027,742	7,434,455	(f)1,184,892	4,815,931	6,000,823	644,000	10,730,000	11,374,000	**44,844,284**	**101,987,935**	**146,832,219**
Yellowtail	264,482	659,331	923,813	485,080	696,972	1,182,052	92,000	194,000	286,000	**5,825,542**	**2,819,095**	**8,644,637**
Total	**5,928,255**	**15,735,150**	**21,663,405**	**2,490,952**	**8,632,808**	**11,123,760**	**812,000**	**12,504,000**	**13,316,000**	**101,034,015**	**152,348,963**	**253,382,978**

(a) Includes 181,115 lbs. fish landed at Monterey. (b) Includes 896,854 lbs. landed in Northern California. (c) Includes 48,652 lbs. landed in Northern California. (d) Includes 208,972 lbs. landed in Northern California. (e) All landed in Northern California. (f) Includes 28,540 lbs. landed in Northern California.

months the fleet unloaded 25,575 tons, including local Bluefin.

Dominic Liubetich, skipper of the *General MacArthur*, was reelected president of the Fishermen's Cooperative Association, San Pedro, for the second time. Other officers: vice president, John Zankich; treasurer, Daniel Sutlovich; manager, George R. Webb, and secretaries, Dorothy Evanisevich and Helen Kuljis.

At San Diego all officers of the American Tunaboat Association were reelected, including Charles A. Landers, president; George A. Wallace, vice president; Edward J. Ghio, secretary-treasurer; Clifton Payne, auditor. Mr. Landers did not stand for reelection at the following election in December, 1947, and Mr. Ghio resigned. A change was then made in the general set-up of the organization.

Anthony Chiappe was reelected president, Lower California Fisheries Association, and J. J. Camillo, manager.

San Diego was approaching the first half-million case mark by the end of February and Los Angeles harbor was gaining momentum. The latter port processed 1,408 tons, for 59,950 cases. During February the new clipper, *Southland* joined the northern fleet, fishing for California Marine Curing & Packing Co.

Clipper Fleet Is Enlarged

At San Diego the fleet was materially increased by several new or navy-returned clippers. The *Sun Hilarita, Sun Glow, Conte Bianco, Sun Voyager* for Sun Harbor Packing Co.; *St. Joseph* and *Conte Di Savoia* for Westgate Sea Products Co.; *Jenita* and *Heroic* for High Seas

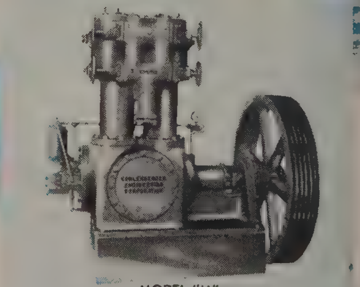
1947--California Yellowfin Tuna Landings and Pack by Months

San Pedro		Months	San Diego		Total California	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	**Pounds Received**	**Cases Canned**
563,003	11,899	January	5,019,386	88,605	**5,582,389**	**100,504**
1,169,436	13,155	February	5,859,380	100,876	**7,028,816**	**114,031**
1,661,082	32,828	March	8,625,066	135,491	**10,286,148**	**168,319**
7,831,059	121,666	April	7,098,573	132,966	**14,929,632**	**254,532**
10,280,381	168,181	May	12,093,841	212,902	**22,374,222**	**381,083**
9,886,381	154,582	June	13,137,202	229,407	**23,023,583**	**383,989**
4,962,420	82,767	July	13,797,022	277,579	**18,759,442**	**360,346**
3,186,017	47,672	August	7,035,077	118,392	**10,221,094**	**166,064**
2,068,900	31,836	September	7,748,715	142,562	**9,817,615**	**174,398**
1,406,713	21,731	October	6,027,742	114,867	**7,434,455**	**136,598**
1,184,892	20,014	November	4,815,931	85,625	**6,000,823**	**105,639**
644,000	12,880	December	10,730,000	214,600	**11,374,000**	**227,480**
44,844,284	**719,211**	**Totals**	**101,987,935**	**1,853,772**	**146,832,219**	**2,572,983**

THE MAJORITY OF PACIFIC COAST FISHERMEN

Prefer KOHLENBERGER REFRIGERATION COMPRESSORS

MODEL "O"
KOHLENBERGER COMPRESSOR
7½" x 7½" — 4 Cyl. 100° H.P



MODEL "M"
KOHLENBERGER COMPRESSOR
6" x 6" — 30 H.P.

Safeguarding the precious catch of hundreds of boats in the fleet of Pacific Coast fishermen are refrigeration compressors bearing the Kohlenberger trademark. Seasoned fishermen have depended upon Kohlenberger protection for over a quarter of a century They have long recognized that Kohlenberger equipment means dependable refrigeration. This reputation combined with the fact that our engineering staff understands the requirements of fishing boat owners is the principal reason why Kohlenberger refrigeration compressors are preferred by the majority of fishermen in the Pacific Coast fleet.

Kohlenberger refrigeration compressors are produced in the largest plant of its kind in the West. Maximum economy is provided by large condensing surfaces, ample gas passage and low-friction plate valves. Each compressor is equipped with safety valves, safety head, and have semi-steel castings throughout.

We have a staff of experienced engineers to assist you at any time. Write or wire for the name of nearest boat yard to serve you.

K KOHLECO
DEPENDABLE REFRIGERATION SINCE 1922
KOHLENBERGER ENGINEERING CORPORATION
FULLERTON, CALIFORNIA

Established in 1922

Kohlenberger *Engineering Corporation*

refrigeration engineers and manufacturers

GENERAL OFFICES
AND FACTORY
FULLERTON, CALIF.

1947—SAN PEDRO TUNA PACK BY MONTHS—1947

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total
ALBACORE:													
1-Lb. Flats	....	....	....	....	....	....	....	277	....	....	....	....	277
½-Lb. Flats.	2	....	....	309	....	654	20,071	63,756	(c) 16,206	(d) 25,469	(g) 5,145	....	131,612
Total....	**2**	....	....	**309**	....	**654**	**20,071**	**64,033**	**16,206**	**25,469**	**5,145**	....	**131,889**
BONITO:													
1-Lb. Flats.	....	....	....	....	....	828	5,105	1,548	1,353	1,005	7	....	9,846
½-Lb. Flats.	4,673	2,646	735	67	546	14,857	133,046	34,344	10,573	6,155	247	....	207,889
Total....	**4,673**	**2,646**	**735**	**67**	**546**	**15,685**	**138,151**	**35,892**	**11,926**	**7,160**	**254**	....	**217,735**
BLUEFIN:													
½-Lb. Flats.	....	14,389	18,960	11,589	5,369	2,385	31,217	123,003	96,344	(e) 29,033	(h) 3,889	....	336,208
SKIPJACK:													
1-Lb. Flats	....	....	....	....	....	....	....	128	....	....	....	....	128
½-Lb. Flats.	150	2,456	9,812	11,861	23,723	(a) 23,092	15,492	54,243	27,036	25,178	6,264	1,520	200,827
Total....	**150**	**2,456**	**9,812**	**11,861**	**23,723**	**23,092**	**15,492**	**54,371**	**27,036**	**25,178**	**6,264**	**1,520**	**200,955**
YELLOWFIN:													
1-Lb. Flats.	....	....	....	51	....	724	538	539	503	305	....	....	2,660
½-Lb. Flats.	11,899	13,155	32,828	121,615	168,181	(b) 153,858	82,229	47,133	31,333	(f) 21,426	(i) 20,014	12,880	716,551
Total....	**11,899**	**13,155**	**32,828**	**121,666**	**168,181**	**154,582**	**82,767**	**47,672**	**31,836**	**21,731**	**20,014**	**12,880**	**719,211**
YELLOWTAIL:													
1-Lb. Flats.	....	....	....	....	....	....	....	1,301	....	228	529	....	2,058
½-Lb. Flats.	1,140	831	727	....	2,597	6,815	15,001	36,520	5,132	2,075	3,993	1,840	76,671
Total....	**1,140**	**831**	**727**	....	**2,597**	**6,815**	**15,001**	**37,821**	**5,132**	**2,303**	**4,522**	**1,840**	**78,729**
TUNA, flakes:													
1-Lb. Flats.	....	....	871	1,285	1,696	1,736	5,609	914	169	1,153	288	....	13,721
½-Lb. Flats.	787	10,923	19,840	45,170	75,574	59,639	56,986	88,415	57,344	17,229	16,713	2,030	450,650
Total....	**787**	**10,923**	**20,711**	**46,455**	**77,270**	**61,375**	**62,595**	**89,329**	**57,513**	**18,382**	**17,001**	**2,030**	**464,371**
TONNO:													
½-Lb. Flats.	....	....	....	....	....	....	628	4,973	1,167	634	....	....	7,402
Grand Total.	**18,651**	**44,400**	**83,773**	**191,947**	**277,686**	**264,588**	**365,922**	**457,094**	**247,160**	**129,920**	**57,089**	**18,270**	**2,156,500**

(a) Includes 1,198 ¼-lb. flats Skipjack tuna. (b) Includes 7,473 ¼-lb. flats Yellowfin tuna. (c) Includes 4,505 ½-lb. flats packed at Monterey. (d) Includes 18,653 ½-lb. flats packed in Northern California. (e) Includes 5,147 ½-lb. flats packed in Northern California. (f) Includes 6 cases packed in Northern California. (g) Includes 5,081 cases packed in Northern California. (h) All packed in Northern California. (i) Includes 775 cases packed in Northern California.

Tuna Packing Co., all either began or completed maiden voyages.

With the *Pacific Explorer* in Central American waters, two San Pedro seiners went south to deliver to the mothership, they being *Dauntless* and *Cesare Augusto.* In March the California legislature extended for another two years the no-limit weight on Yellowfin and Bluefin, allowing crews to bring home fish in excess of 150 lbs.

In March Los Angeles harbor had six canneries processing tuna, receiving 1,395 tons, and packing 67,071 cases. Purse seiners were widely scattered along Mexico's western shores. Bluefin had tapered off abruptly and when the season ended the total Bluefin catch below the border was 2,473 tons, as against the later "local" run of 5,902 tons.

The cycle of trips for clippers at San Diego was completed during the third month. Sixty clippers reported bringing 5,267 tons, or an average of 88 tons per vessel. This fish came from Mexico to Ecuador. The month's pack was 203,790 cases, bringing the three-months' pack to 477,805 cases.

Joining the San Diego fleet was the *West Point* and *Santa Barbara,* first for Van Camp Sea Food Co., and latter for the new People's Packing Corporation.

Sun Harbor completed modernization of its reduction plant bringing up capacity to 15 tons per hour. Standard Steel Corporation supplied most of the equipment. W. Gregory Gorby changed the name of the California Marine Packing Co., Newport to Newport Canning Co., and added a tuna line, with a 65′ Harris Universal Exhaust, supplied by United Welding & Manufacturing Co. Pay increases of 10c per hour were won by cannery workers throughout the industry.

Sun Harbor climaxed two years of research and experiments with its "vitamin-filled" tuna, each can reported to contain 10,000 units of A; and 1,000 of D. The firm then conducted a test advertising campaign.

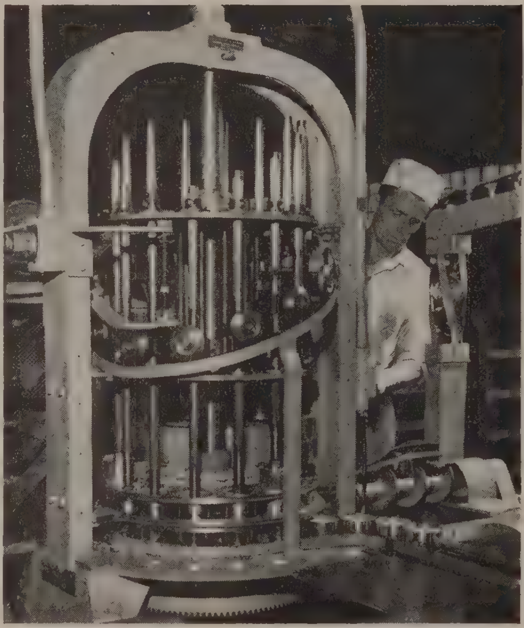
Million Cases in First 4 Months

By the end of April the Southern California industry had passed the

1947--California Striped Tuna Landings and Pack by Months

San Pedro		Months	San Diego		Total California	
Pounds Received	Cases Canned		Pounds Received	Cases Canned	Pounds Received	Cases Canned
2,876	150	January	572,859	11,382	575,735	11,532
290,036	2,456	February	1,498,901	28,065	1,788,937	30,521
335,393	9,812	March	1,834,099	36,167	2,169,492	45,979
642,963	11,861	April	1,150,232	23,021	1,793,195	34,882
1,301,145	23,723	May	2,065,526	35,521	3,366,671	59,244
1,796,126	23,092	June	3,481,227	57,082	5,277,253	80,174
938,916	15,492	July	5,085,941	91,635	6,024,857	107,127
3,971,375	54,371	August	4,330,052	77,177	8,301,427	131,548
1,536,135	27,036	September	6,449,309	111,657	7,985,444	138,693
1,582,610	25,178	October	8,358,106	146,598	9,940,716	171,776
458,402	6,264	November	2,969,375	49,349	3,427,777	55,613
76,000	1,520	Decemner	1,580,000	31,600	1,656,000	33,120
12,931,877	**200,955**	**Totals**	**39,375,627**	**699,254**	**52,307,504**	**900,209**

AUTOMATIC *Tuna*
FLAKE PACKER



½-Lb. Can Flake Packer in Operation

The Automatic Tuna Flake Packer, fully patented, is the only successful machine of its kind on the market. It has filled a definite need for a plunger type filling machine, operating with high efficiency to save labor and packing costs. Variable capacity, 50 to 200 cans per minute. Made for ½- and 1-lb. round cans. Driven by 3-hp. motor. This machine is adaptable to other kinds of flaked fish.

Grated fish is fed to automatic packer by conveyor from grating machine, into a hopper. (We also manufacture the grating machine.) Fish is fed in correct amounts to cans, then pressed into place by stainless steel plungers. Empty cans are fed into machine by automatic screw-type conveyor. The operation is foolproof and simplicity itself. This automatic flake packer is in operation in all major Pacific Coast canneries.

In addition to above we also manufacture a complete line of cookers, retorts, cooler racks, retort baskets, can aligners and unscramblers, scrap elevators, can washers, fish baskets and buggies, tray racks, dock cranes, heavy duty cannery casters, exhaust boxes, packing and cleaning tables, conveyors and tanks of all types.

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SAN DIEGO, CALIF.
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million-case mark, San Diego contributing 669,013 and Los Angeles harbor, 336,018 cases. In spite of an increased fleet, the industry was gaining only slowly over 1946 tonnage.

San Diego saw 4,310 tons flumed, and 191,208 cases. San Pedro unloaded 40 purse seiners as well as some clippers of 4,293 tons, for 190,175 cases. The new People's Packing plant put through a couple of test runs and thereafter went into production from a fleet of 12 clippers.

Van Camp stepped up capacity of its San Diego plant to 300 tons, tuna in eight hours, this made possible by installation of much new equipment, additional steam and new dock facilities. At Terminal Island a new refrigeration storage system was installed at Franco Italian Packing Corporation, to permit receipt of 130 tons. The system was by Baker. At Southern California Fish Corporation three more cold storage rooms were added, also by Baker.

The heavy production season got under way in May. San Diego received 6,580 tons and packed, 266,214 cases, while Los Angeles harbor flumed 6,212 tons, from 48 seiners and 12 clippers, packing 273,884 cases. New clippers in the fleet were the *Ruthie B, Renown*, and *Sun Jason*.

June Brings First Albacore

Albacore made its appearance on Friday, June 13, off Newport Beach. Buying barges and tenders for various canneries were immediately put into operation. The run was scattered, however, with little tonnage. Pan-Pacific Fisheries, Inc., placed the huge buying barge *Millgus* at San Martin Island, Lower California.

During June 6,145 tons were delivered at Los Angeles harbor, for 268,881 cases, while San Diego was processing from 9,145 tons, the bulk of which was Yellowfin, 7,253 tons. The Albacore run continued short. *Sun Beauty* was lost during July, first of six clippers during the year. The others were *El Dorado, Donna Jo, Queen, Lisboa* and *Viking*.

For the six months' period the industry was slightly ahead of 1946, 2,159,300 cases as against 2,000,000 cases. San Diego had received 31,799 tons and San Pedro, 22,032 tons. A new tuna clipper was the *South Coast*.

The Cal-Pacific Fisheries, Wilmington, was changed to Laguna Packing Corporation in mid-summer, when the majority stock was acquired by F. Walker Boltz. Later, Oct. 2, the plant manager, John E. Heston, pioneer fishery operator died.

Landings of Tuna in California Since 1926

CAUGHT IN UNITED STATES WATERS

YEAR	ALBACORE	BLUEFIN	BONITO	SKIPJACK	YELLOWFIN	Total Pounds
1926	2,469,861	6,526.533	2,942,906	14,217,018	2,695,502	**28,851,820**
1927	4,455,372	4,898,386	1,121,476	5,802,598	595,247	**16,873,079**
1928	283,321	13,700,870	1,335,533	4,396,132	84,626	**19,800,482**
1929	269,056	7,476,370	593,886	8,032,077	199,444	**16,570,833**
1930	283,117	15,598,892	3,866,496	3,015,275	35,553	**22,799,333**
1931	37,322	2,356,775	3,014,135	11,965,616	154,024	**17,527,872**
1932	619,694	460,044	1,676,487	375,042	165,323	**3,296,590**
1933	487	324,216	1,967,244	10	6,867	**2,298,824**
1934	171,105	18,291,721	3,003,048		19,514	**21,485,388**
1935	2,386,249	18,495,813	2,263,740	1,907,916	529,007	**25,582,725**
1936	956,771	13,808,578	2,216,679	8,456,751	767,231	**26,206,010**
1937	3,196,770	10,822,071	5,707,212	1,884.148	187,732	**21,797,933**
1938	12,492,675	16,512,262	4,684,570	2,816	10,566	**33,702,889**
1939	12,342,671	9,318,978	6,697,249	2,718,641	457,405	**31,534,944**
1940	5,587,790	18,849,968	3,553,069	2,985,111	237,527	**31,213,465**
1941	3,276,257	8,848,147	7,200,496	4,214,373	1,739	**23,541,012**
1942	7,997,293	10,331,506	861.841	217,838	1,315	**19,409,793**
1943	11,885,815	7,663,887	801,535	17,904	2,058	**20,375,199**
1944	8,091,207	16,072,045	326,175	43,676	45,373	**24,578,476**
1945	9,505,544	14,139,076	339,664	93,078	5,159	**24,582,521**
1946	9,101,600	15,529,229	582,948	1,747,060	32,653	**26,993,490**

CAUGHT IN WATERS SOUTH OF THE INTERNATIONAL BOUNDARY

YEAR	ALBACORE	BLUEFIN	BONITO	SKIPJACK	YELLOWFIN	Total Pounds
1926	60		178,698	6,734,330	9,869,484	**16,782,572**
1927	123,995		596,532	28,003,362	25,338,798	**54,062,687**
1928			770,370	11,551,972	32,168,580	**44,490,922**
1929	45	50,487	2,324,658	18,974,936	37.245,480	**58,595,606**
1930		6,322,390	1,297,764	17,470,312	56,618,628	**81,709,094**
1931		1,177,255	65,538	4,541,145	36,425,456	**42,209,394**
1932		611,162	1,185,799	21,261,535	36,758,087	**59,816,583**
1933		236,276	284,955	16,687,298	51,068,763	**68,277,292**
1934		66,107	199,646	14,830,194	60,893,646	**75,989,593**
1935	61,279	6,677,270	5,632,744	15,289,270	71,765,126	**99,425,689**
1936		5,116,305	4,999,237	18,549,354	77,585,413	**106,250,309**
1937		1,871,851	2,100,858	45,219,944	91,334,726	**140,527,379**
1938	29,919	1,215,769	3,155,423	22,650,815	78,277,578	**105,329,504**
1939	4,187	2,516,737	3,221,626	27,402,250	109,960,396	**143,105,196**
1940	880	1,120,300	1,737,895	53,665,044	113.660,682	**170,184,801**
1941		670,865	3,057,106	21,371,095	76,700,021	**101,799,087**
1942	2,623,900	2,513,058	788,848	38,497,344	41,166,126	**85,589,276**
1943	9,499,049	2,514,283	1,480,349	28,875,880	49,259,270	**91,628,831**
1944	9,774,659	4,259,966	492,696	29,920,701	62,190,656	**106,674,678**
1945	12,262,037	6,454,983	2,374,517	33,180,329	86,125,497	**140,397,363**
1946	8,962,447	6,502,519	5,042,700	39,130,247	126,393,035	**186,033,948**
1947	12,867,587	19,336,731	13,394,300	52,307,504	146,832,219	**244,738,341**

GRAND TOTAL POUNDS

1926	**45,634,392**	1933	**70,576,116**	1940	**201,398,266**
1927	**70,935,766**	1934	**97,474,981**	1941	**125,340,099**
1928	**64,291,404**	1935	**125,008,414**	1942	**104,999,069**
1929	**75,166,439**	1936	**132,456,319**	1943	**112,004,030**
1930	**104,508,427**	1937	**162,325,312**	1944	**131,253,154**
1931	**59,737,266**	1938	**139,032,393**	1945	**164,479,884**
1932	**63,113,173**	1939	**174,640,140**	1946	**213,027,438**

NOTE.—Segregation of 1947 landings as to origin not available.

All fish caught in U. S. waters were caught in California waters, except the following, which were caught off the Oregon-Washington coast: Albacore, 11,176 lbs. in 1936; 1,176,754 lbs. in 1937; 7,702,795 lbs. in 1938; 4,078,562 lbs. in 1939; 3,255,858 lbs. in 1940 854,103 lbs. in 1941; 448,446 lbs. in 1942. In addition to items included in this table, California canneries in 1941 received 444,340 lbs. of Albacore and 121,596 lbs. of Skipjack from Japan.

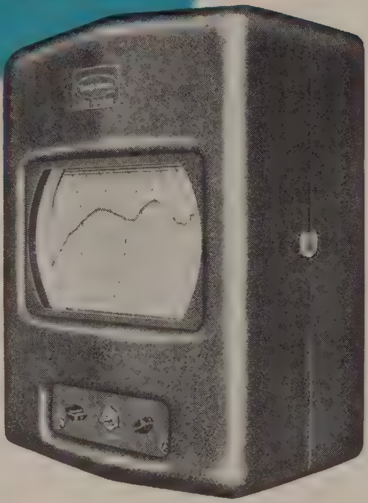
1947--California Yellowtail Landings and Pack by Months--1947

SAN PEDRO			SAN DIEGO		Total California	
POUNDS RECEIVED	CASES CANNED	MONTHS	POUNDS RECEIVED	CASES CANNED	Pounds Received	Cases Canned
39,492	1,140	January	39,198	708	**78,690**	**1,848**
142,550	831	February	158,189	1,915	**300,739**	**2,746**
49,655	727	March	83,730	696	**133,385**	**1,423**
3,619		April	49,037	839	**52,656**	**839**
308,429	2,597	May	77,605	1,032	**386,034**	**3,629**
514,676	6,815	June	72,981	1,127	**587,657**	**7,942**
1,156,581	15,001	July	166,970	1,654	**1,323,551**	**16,655**
2,427,444	37,821	August	256,745	4,131	**2,634,189**	**41,952**
341,534	5,132	September	364,337	5,227	**705,871**	**10,359**
264,482	2,303	October	659,331	8,352	**923,813**	**10,655**
485,080	4,522	November	696,972	8,480	**1,182,052**	**13,002**
92,000	1,840	December	194,000	3,880	**286,000**	**5,720**
5,825,542	**78,729**	**Totals**	**2,819,095**	**38,041**	**8,644,637**	**116,770**

FACTS

about the

BENDIX DEPTH RECORDER



1 **YOU SEE THE BOTTOM.** The big, easy-to-read chart which the Bendix produces gives you an accurate picture of all under-craft conditions the instant you pass over them. Because of big, hidden schools of fish which the Recorder has revealed, it has actually paid for itself in one haul. In addition, it can save your gear by revealing bottom hazards and it will simplify navigation.

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Adv. No. 1594—½ page—black & blue
Fishing Gazette—Dec., 1947
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Southern Fisherman—Jan., 1948
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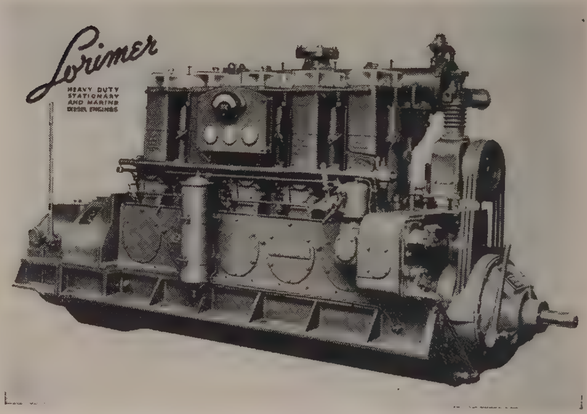

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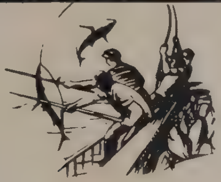
Estimated Value of Fish and Fishery Products at PRODUCTION, PROCESSING, and DISTRIBUTION Levels*



THE *ORIGINAL* VALUE OF FISH AND SHELLFISH AS TAKEN FROM THE WATERS WAS **$253,000,000**

WHEN *PROCESSED*

THE VALUE WAS **$528,105,000**

AFTER *WHOLESALE* DISTRIBUTION THE VALUE WAS **$688,697,000**

AND WHEN *RETAILED* TO THE CONSUMER

THE VALUE WAS **$887,791,000**

*Based on data for 1946 by Fish and Wildlife Service and Federal Trade Commission.

San Diego got 10,625 tons in July and packed 447,544 cases. Northern plants flumed 8,767 tons and processed 361,712 cases. Highlight of the month was the abundance of bonito at Los Angeles harbor, caught by seiners. It topped all other grades, the total being 3,778 tons. Albacore appeared in some strength. San Diego: 707 tons, and San Pedro, 403 tons. Local Bluefin was very disappointing.

August slumped in tonnage, when San Diego's receipts were 6,802 tons, for 318,099 cases. Los Angeles harbor hung up a new record, 11,148 tons, for 456,134 cases. Bluefin, locally caught, contributed 3,335 tons. Albacore was running strongly and the northern canneries received 1,409 tons. San Diego's Albacore was 1,626 tons.

San Diego received 7,049 tons in September, packing 290,894 cases. Los Angeles harbor, including Newport Beach packed 255,866 cases from 5,596 tons, of which 2,786 tons was Bluefin. The final figures on Bluefin for the year were 8,375 tons.

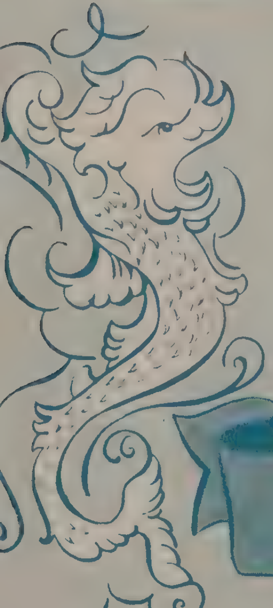
Tuna motherships began to be discussed and plans made for anchoring these in Central American waters. Van Camp Sea Food Co. readied the navy *AN-53* into a sharp-freeze ship, while San Diego Packing Co. converted the former net tender, *Reine Del Mar*. Both were scheduled to sail in early 1948. Larger yet, Columbia River Packers Association had two converted *LSTs* ready for sea as 1948 opened.

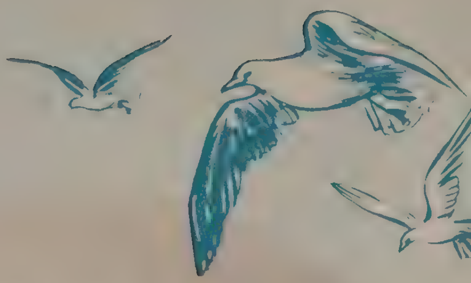
San Diego continued high production through the fall months but San Pedro slowed down due to opening of the sardine season. The southern port received 8,235 tons in October for 319,780 cases. San Pedro got 2,121 tons and packed 92,802 cases. Purse seining for the year was practically over, only a few still remaining in operation. By December only one, the new *Golden West* was in southern waters, reported off Central America.

The great run of local Bluefin had tapered off; so had Albacore along the coast, except north of Santa

1947--California Bluefin Tuna Landings and Pack--1947

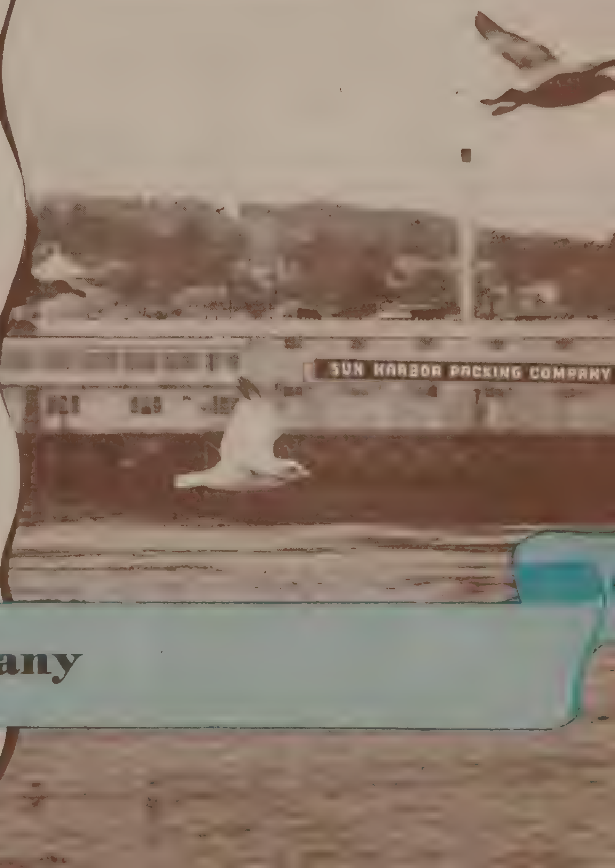
San Pedro			San Diego		Total California	
Pounds Received	Cases Canned	Months	Pounds Received	Cases Canned	Pounds Received	Cases Canned
.....		January...				
794,393	14,389	February			794,393	14,389
1,337,557	18,960	March			1,337,557	18,960
453,867	11,589	April			453,867	11,589
258,161	5,369	May			258,161	5,369
171,675	2,385	June	9,621	227	181,296	2,612
1,913,811	31,217	July	196,132	3,976	2,109,943	35,193
7,151,694	123,003	August	108,118	2,265	7,259,812	125,268
5,555,730	96,344	September	29	88	5,555,759	96,432
1,251,670	29,063	October			1,251,670	29,063
134,273	3,889	November			134,273	3,889
....		December				
19,022,831	**336,208**	**Totals**	**313,900**	**6,556**	**19,336,731**	**342,764**





"As a demonstration of confidence that nature again will revive the support of one of the largest fisheries in the world, we dedicate these pages to the fishing fraternity in Monterey which has made this industry possible."

Jack Crivello
President



Sun Harbor Packing Company

Reina del Mar is one of the several tuna "motherships," perhaps more accurately characterized as "refrigerated tuna carriers," due to be put into operation in 1948. Having no fishing function, they serve as refrigerated depots and transportation units, permitting specialized fishing vessels to concentrate on fishing, and eliminating time lost to the fisherman in running its catch to a distant home port. *Reina del Mar* is 197′ in length and operates for San Diego Packing Co. She is expected to carry 750 tons of frozen tuna.

Barbara where some tonnage was taken. In October a total of 90 clippers reported at San Diego, unloading an average 90 tons per vessel.

Tonnage for November dropped considerably from anticipated. San Diego flumed 3,939 tons from 56 clippers, and packed 177,835 cases. San Pedro-Wilmington-Long Beach unloaded only 1,372 tons, producing 55,055 cases. Thus, for 11 months Southern California had produced 2,844,271 cases and the goal of 5,000,000 cases for 1947 was assured.

"Quickie" Strike Raises Tuna Prices

A quickie strike, starting with the arrival of the *Jenita* in late November, finally tied up 3,000 tons in clipper holds until a compromise was reached between fishermen and canners for a $30 raise for Yellowfin and Striped. The strike was settled in early December. The fishermen had first demanded $40 increase. The new scale was $340 per ton, Yellowfin; $320, Striped. A new clipper joined the fleet, Nov. 11, *South Pacific* for High Seas.

In round figures San Diego's six canneries received 50,000 tons Yellowfin; 20,000 Striped; 3,000 Albacore; 132 Bluefin; 150 bonito and 1,500 tons yellowtail. The fleet made 789 trips in 38,161 trips days. The fleet, during 1947 of clippers with 40 tons or more capacity, had grown to a 175-vessel fleet, not including the *YPs* rapidly joining the Southern California fleet. Los Angeles Harbor canneries received approximately 40,000 tons, all grades during the year.

1947--California Albacore Landings by Months--1947

San Pedro			San Diego		Total California	
Pounds Received	Cases Canned	Months	Pounds Received	Cases Canned	Pounds Received	Cases Canned
	2	January				2
		February				
		March				
18,043	309	April			18.043	309
		May				
71,498	654	June	330,517	5,953	402,015	6,607
1,011,990	20,071	July	1,866,283	33,649	2,878,273	53,720
2,976,899	64,033	August	3,443,899	78,358	6,420,798	142,391
(a) 668,755	(b) 16,206	September	472,156	11,434	1,140,911	27,643
c 1,188,809	25,469	October	570,581	13,285	1,759,390	38,754
(d) 212,603	5,145	November	35,553	2,348	248,157	40,699
		December				
6,148,597	**131,889**	**Totals**	**6,718,990**	**145,027**	**12,867,587**	**276.916**

(a) Includes 181,115 lbs. fish received at Monterey.
(b) Includes 11,701 cases canned at Monterey.
(c) Includds 896,854 lbs. landed in Northern Calif.
(d) Includes 208,972 lbs. landed in Northern Calif.

1947--California Bonito Landings and Pack by Months--1947

San Pedro			San Diego		Total California	
Pounds Received	Cases Canned	Months	Pounds Received	Cases Canned	Pounds Received	Cases Canned
80,087	4,673	January	75,814	1,524	155,901	6,197
144,321	2,646	February	87,726	1,804	232,047	4,350
36,455	735	March	33,144	435	69,599	1,170
560	67	April	13,864	388	14,424	455
29,834	546	May	6,334	83	36,168	629
1,986,597	15,685	June	2,299	31	1,988,878	15,716
7,014,656	138,151	July	486,334	8,682	7,500,990	146,833
1,953,927	35,892	August	129,846	1,750	2,083,773	37,642
764,792	11,926	September	63,689	1,054	828,481	12.980
233,971	7,160	October	119,390	2,041	353,361	9,201
15,702	254	November	114,976	1,322	130,678	1.576
		December				
12,260,884	**217,735**	**Totals**	**1,133,416**	**19,014**	**13,394,300**	**236,749**

WILLIAM C. EARDLEY
President, Eardley Fish & Fillet Co., Seattle

Secretary, National Fisheries Institute

R. L. PUCCINELLI
Vice President and General Manager,
Pan-Pacific Fisheries, Inc.
Terminal Island

MACKEREL

Mackerel canning in California in 1947 reached 1,447,840 cases, the second-largest production in the history of that fishery.

1947—California Mackerel Pack—1947

San Pedro District				Monterey District		
Pounds of Fish Received	Cases 1-Lb. Talls	Cases Other Sizes	Months	Pounds of Fish Received	Total Full Cases	**Total Full Cases**
7,173,701	77,193		January	47,400	433	**77,626**
12,570,349	104,811	3,864	February	523,544	5,441	**114,116**
3,426,465	18,452		March	81,820	857	**19,309**
1,513,805	3,720		April			**3,720**
176,727	764		May			**764**
884,328	1,000	797	June			**1,797**
1,484,554	8,365		July	6,000	810	**9,175**
3,491,705	33,479		August		129	**33,608**
17,382,823	153,872		September	763,854	8,073	**161,945**
16,027,163	160,893	1,175	October	1,221,175	7,335	**169,403**
46,158,819	381,267	20,974	November	8,212,403	67,952	**470,193**
36,542,500	321,820		December	7,308,500	64,364	**386,184**
146,832,939	**1,265,636**	**26,810**	**Totals**	**18,164,696**	**155,394**	**1,447,840**

Abundance of mackerel, an almost insatiable demand for canned fish, and a severe scarcity of sardines combined in 1947 to produce a California canned mackerel pack of 1,447,840 cases, the largest since 1935, and the second largest in the history of the industry.

The catch from which this great pack was produced totalled 164,997,635 lbs.

While Pacific mackerel dominated the production as usual, a substantial part of the pack consisted of Jack mackerel, a somewhat smaller species not often canned in the past.

Although the San Pedro area continued far in the lead as a producer of mackerel, the Monterey district substantially increased its production. This resulted largely from the scarcity of sardines, which freed fishing vessels and canning facilities for mackerel packing.

Southern California's mackerel pack exceeded 1,000,000 cases in 1947 for the fifth time in the history of Pacific mackerel canning. By Dec. 15 the year's tonnage had reached 58,000 tons and the production had topped 1,100,000 cases, mostly 1-lb. talls, and with some specialty packs, skinless, boneless fillets in salad oil.

The record was set in 1935, with a pack of 1,761,236 cases. Other years when 1,000,000 cases or more were packed: 1,257,085 in 1934; 1,228,357 in 1936, and 1,399,459 cases in 1940.

While the tonnage was high in 1947, the pack itself was not too satisfactory to canners because of the heavy yield of horse mackerel. This far exceeded the more favored Pacific variety which finds a more ready domestic market.

January saw 4,128 tons delivered at canneries around Los Angeles harbor and the three plants at Newport Beach. Case pack was 79,676. Deliveries for February were high, 6,415 tons for 107,085 cases. Reopening of the season in August yielded 2,050 tons, for 34,200 cases; then the pack began to build up until in November 22,823 tons was flumed, producing 394,856 cases.

Packing of mackerel was made under some difficulties due to the fact that the fish became mixed up with sardine schools and fares at the cannery pierheads were also mixed. This was particularly true with horse mackerel.

Pacific mackerel opened the fall season at $60 per ton; horse was $45. However, in early December fishermen struck for higher raw-fish prices, and gained an increase in Pacific to $75; horse to $60 per ton.

Packers were very reluctant to pay an increase for the latter variety saying it would raise the wholesale price too high. When the increase was granted, horse mackerel was quoted, f.o.b. coast, at $8.50, basis, 48 1-lb. talls. The product began to pile up in warehouses.

California Canned Mackerel--1926 to 1947

Year	San Pedro District			San Diego District			Monterey	Grand Total (Full Cases)
	*1-lb. Cans (full cases)	†Other Size Cans (full cases)	Total (full cases)	1-lb. Cans (full cases)	Other Size Cans (full cases)	Total (full cases)	Total (full cases)	
1926		268	268	4	5	9		**277**
1927	10,725		10,725		118	118		**10,843**
1928	357,136	2,337	359,473	25,110	239	25,349	1,030	**385,852**
1929	477,570	27,006	504,576	86,246	3,720	89,966	1,476	**595,572**
1930	122,870		122,870	4,250	39	4,289	117	**127,276**
1931	100,912		100,912	305		305		**101,217**
1932	84,385	4,058	88,443	184		184		**88,627**
1933	578,902	38,163	617,065	100,883	4,729	105,612	7,722	**730,309**
1934	942,507	126,538	1,069,045	115,654	12,303	127,957	61,083	**1,257,085**
1935	1,409,922	195,771	1,605,693	105,081	4,436	109,517	46,026	**1,761,236**
1936	990,360	60,250	1,050,610	113,075	9,533	122,608	55,139	**1,228,357**
1937	727,656	14,309	741,965	30,482	3,011	33,493	13,856	**789,314**
1938	828,284	71,741	900,025	44,856	3,125	47,981	5,643	**958,649**
1939	869,474	20,323	889,797	73,608	1,247	74,855	2,604	**967,256**
1940	1,311,778	47,304	1,359,082	39,467	768	40,235	142	**1,399,459**
1941	811,467	6,096	817,563	19,484		19,484	6,700	**843,747**
1942	579,053	9,479	588,532	17,456	3,663	21,119	4,539	**614,190**
1943	827,040		827,040	4,255		4,255	7,997	**839,312**
1944	970,772	13,324	984,096	266		266	2,060	**986,422**
1945	584,318	1,658	585,976				3,641	**589,617**
1946	602,458	33,772	636,230				80,438	**716,668**
1947	1,265,636	26,810	1,292,446				155,394	**1,447,840**

* Practically all 1-lb. Talls. † Largely ½-lb. Flats.

FRENCH *Sardine Company, Inc.*

J. J. BOGDANOVICH
PRESIDENT

TERMINAL ISLAND, CALIFORNIA

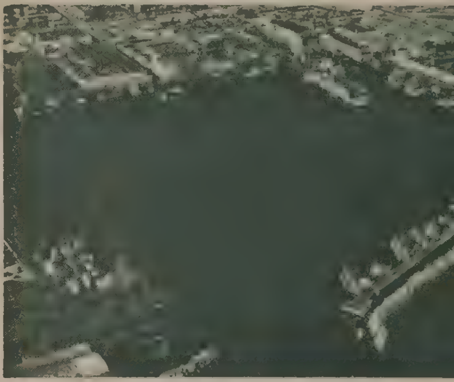
WESTPORT

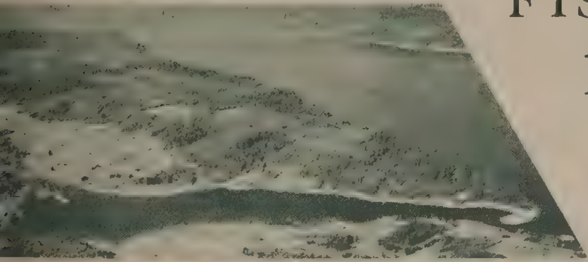
KETCHIKAN

HONOLULU

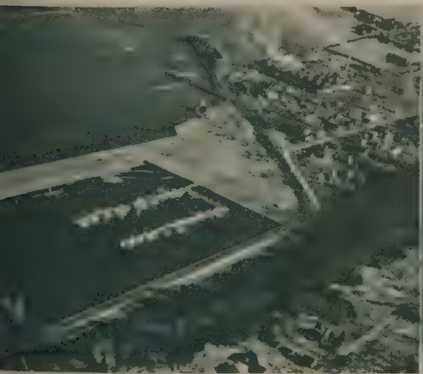
MONTEREY

PICTORIAL HIGHLIGHTS
of the
PACIFIC FISHERIES
1947-48


TERMINAL ISLAND


GIG HARBOR

EUREKA


PORT ANGELES

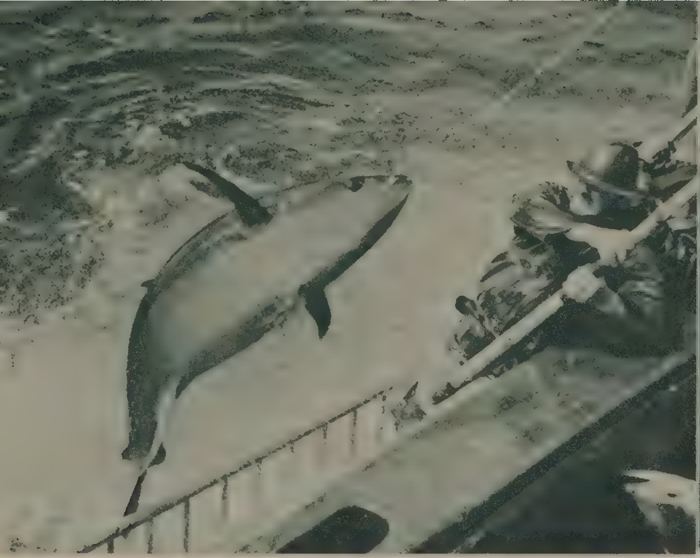
DEPOE BAY

JUNEAU

PRINCE RUPERT

SAN PEDRO

SAN DIEGO



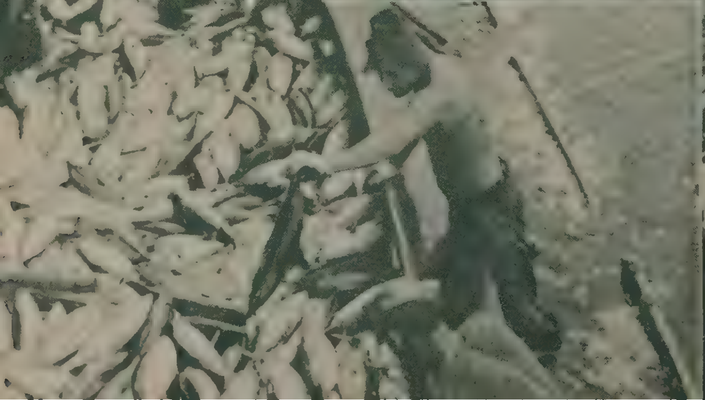
1947 BREAKS ALL TUNA RECORDS

Five million cases have always been looked upon as the ultimate goal of America's tuna industry. In 1947 the goal was attained, and every record for volume and value of the catch was smashed.

Tuna fishing by means of live bait is perhaps the most spectacular form of commercial fishing, and is the dominant method by which the pack is produced. Where fish are large, two to four poles may be bridled to a single hook. In the two pictures above, the men are fishing in three-pole teams. In the lower right it is two men to one fish.

In the picture at the lower left, note how the catch has submerged the fishing racks.

Bait is always a problem in tuna clipper fishing, and it's bait the men are after in the small picture. If they can't catch tiny fish for bait, they can't catch giant tuna for canning.



BRITISH COLUMBIA LEADS ALL CANADIAN FISHERIES

Again in 1947 the fisheries of British Columbia proved by far the richest in Canada. Namu and Butedale, left and right above, are among the great, integrated packing stations of western Canada. Namu's 1947 salmon pack of 208,000 cases is believed to be the largest ever produced by a salmon cannery in a single season.

In the picture to the left, women workers are packing the cooled cans in cases for shipment to market.

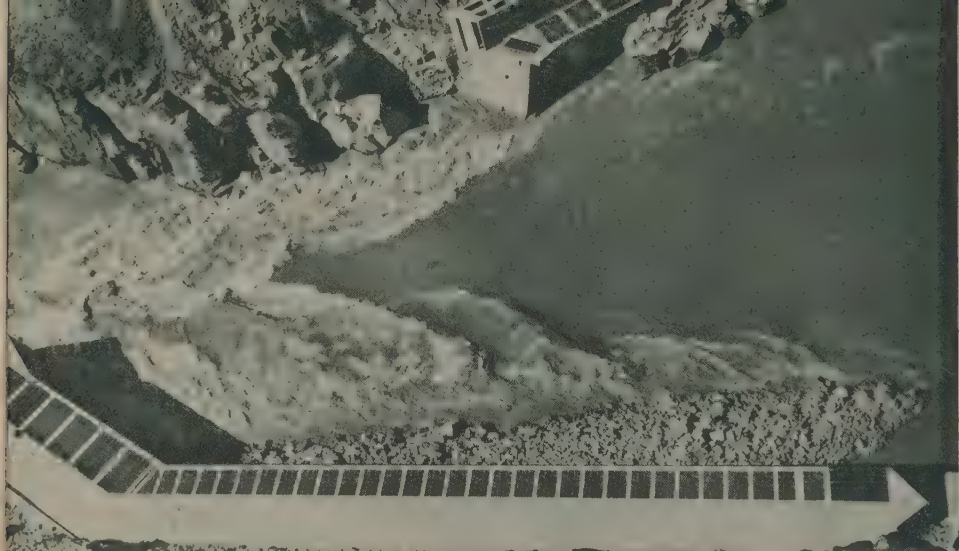
British Columbia salmon are produced principally by gillnetters, as seen at left; and purse seiners, pictured below as they deliver fish to a scow, on which they are iced and carried to the cannery.

Scientific research and close technical control are characteristic of Canadian fish packing, constantly safeguarding quality. Below is a cannery laboratory whose windows look out upon the fisheries of the Fraser River.

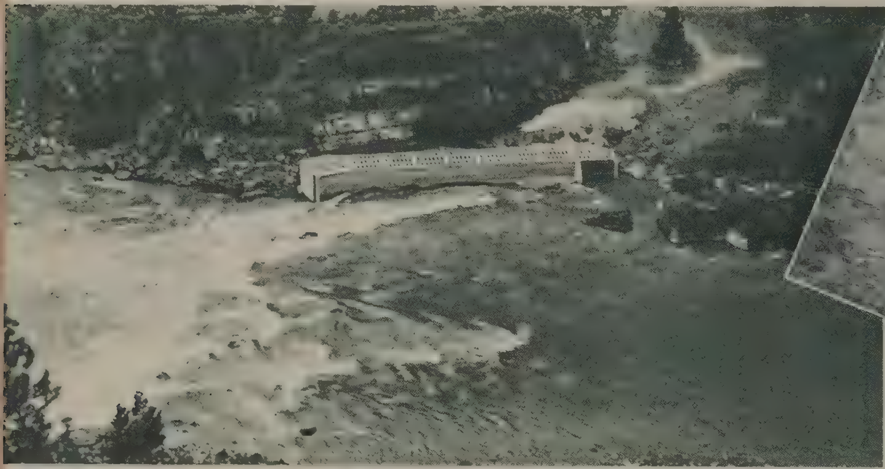
SOCKEYE SOLUTIONS

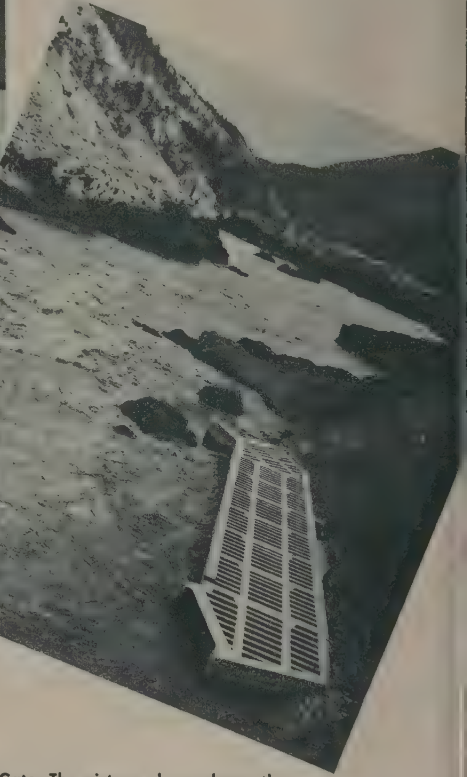
Where a few years ago the Fraser River Sockeye struggled futilely to pass Hell's Gate and the Bridge River Rapids, today these fishways pass the run to the spawning grounds, returning rich dividends on the investment.

The Canadian-American commission solved the riddle of the Sockeye by biological research, and then applied engineering to open the way.

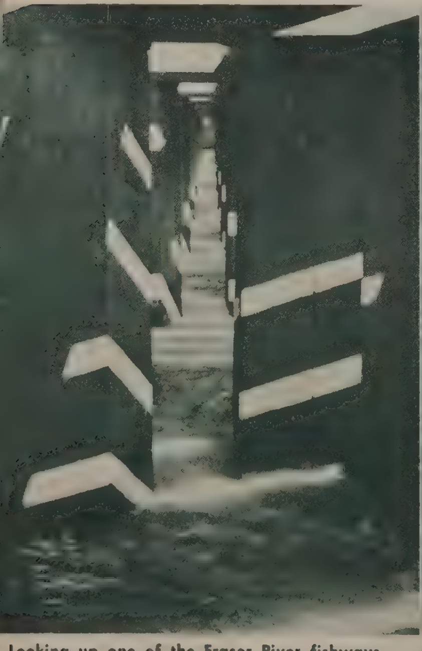


Looking down on Hell's Gate, the principal barrier to the Fraser River Sockeyes, and the fishways which unlock it. They offer the salmon easy means of passing the points where original velocities were too great for the salmon to surmount. The upper section of the far fishway was added in 1947 to serve at extreme high-water levels, when the main structure is drowned-out.

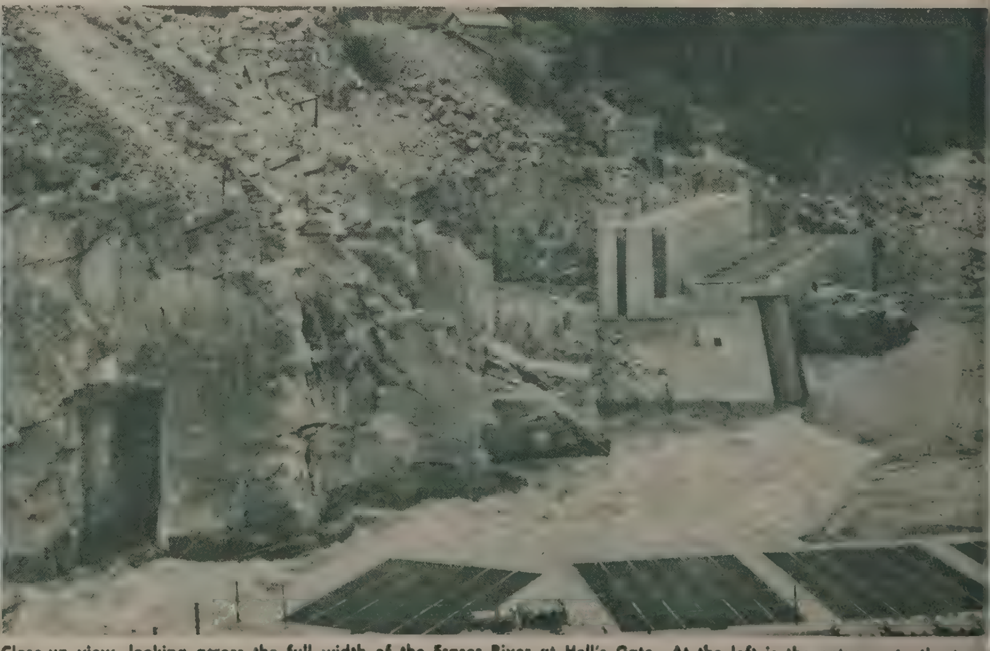




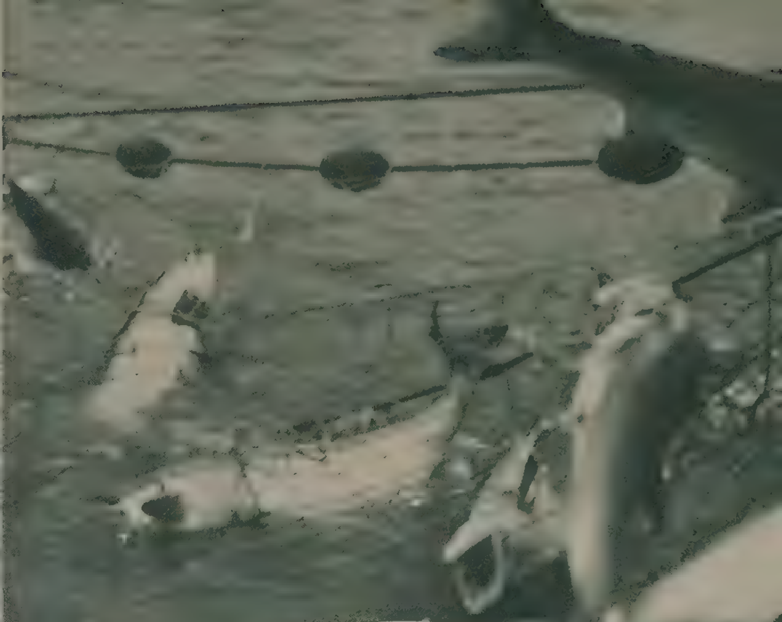
Bridge River Rapids on the Fraser constituted a barrier to the Sockeye migration second only to that of Hell's Gate. The picture above shows the fishway built at Upper Bridge River Rapids, and that at the right the structure provided at the Lower Bridge River Rapids. They pass the Sockeyes at water stages when velocities are too great for the salmon at certain critical points.



Looking up one of the Fraser River fishways —which depart from the usual concept of a "fish ladder." They consist of vertical baffles which reduce velocity of the flow.



Close-up view, looking across the full width of the Fraser River at Hell's Gate. At the left is the entrance to the tun through which salmon may pass, avoiding the difficult water along the ragged opposite bank. Precipitous drop at t corner of the far fishway was the most critical point on the right bank of the stream. Note upper fishway, built serve the salmon under ultra-high river conditions.



BRISTOL BAY COMES BACK

Richest single fishery in the world is that of Bristol Bay, Alaska, where most of America's Red Salmon is packed in a small area, and in only 20 fishing days.

Heavy production from this area in 1947 was one of the bright aspects of the year's fisheries, for it marked recovery from lower levels reached in years when the fishery showed the strain and drain resulting from production for war.

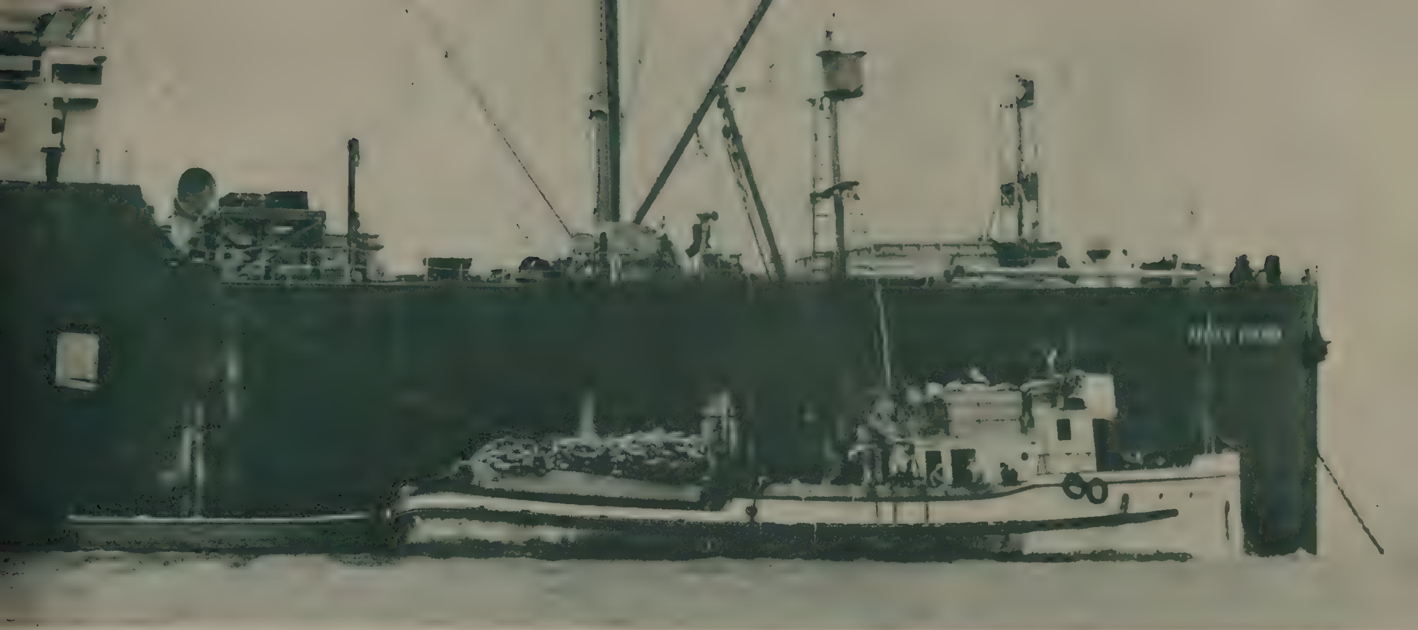
Salmon fishing on Bristol Bay is big business, but conservation regulations limit fishing boats and gear to comparatively primitive types. The waters of the bay are shallow, and it is necessary to lighter the pack to ocean steamers riding far off-shore.

KING CRAB—

Out of the Alaskan sub-Arctic in 1947 came a new American seafood, never before commercially available—frozen King Crab. This is a species of giant crab with sweet, attractive, pure white meat touched with brilliant red. King Crabs weigh as much as 15 pounds each. In 1947 three American steel trawlers—*Deep Sea*, *Chirikof* and *Alaska*—made history when they ventured into Bering Sea and along the Aleutians, and brought back cargoes of quick-frozen King Crab.

From their venturing may arise another great Pacific fishery.

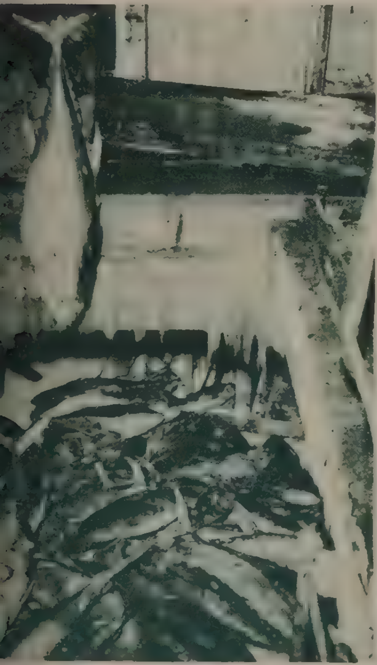
Much remains to be learned of the King Crab, and how best to produce it for the American market. Here are pictures taken aboard *Deep Sea*, whose 140′ of length make her the greatest Pacific trawler.



The REFRIGERATED MOTHERSHIP Comes to the Pacific Ocean Tuna Fisheries

Venturing into the field of the refrigerated vessel serving tuna fishing vessels in tropical waters, *Pacific Explorer* in 1947 tested the feasibility of this enterprise. This federally-owned craft was operated under contract by Pacific Exploration Co. These photos by Carl B. Carlson are the first showing her operations.

As 1948 opens, a number of privately-owned vessels are prepared to follow the *Explorer's* wake to provide refrigerated carrier service fo fishing vessels.



Above: Frozen tuna travel from the freezer by chute, drop to hold for storage.

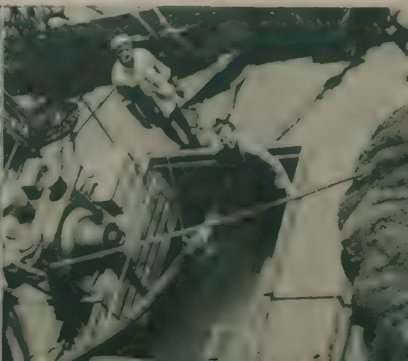
Below: Frozen tuna are stowed in one of the vessel's cold storage holds.

Above: Tuna loaded into one of the sharp freezers aboard ship.

Below: A fork truck picks up a box of tuna unloaded from the fishing vessel. Mechanical handling is widely employed at sea.

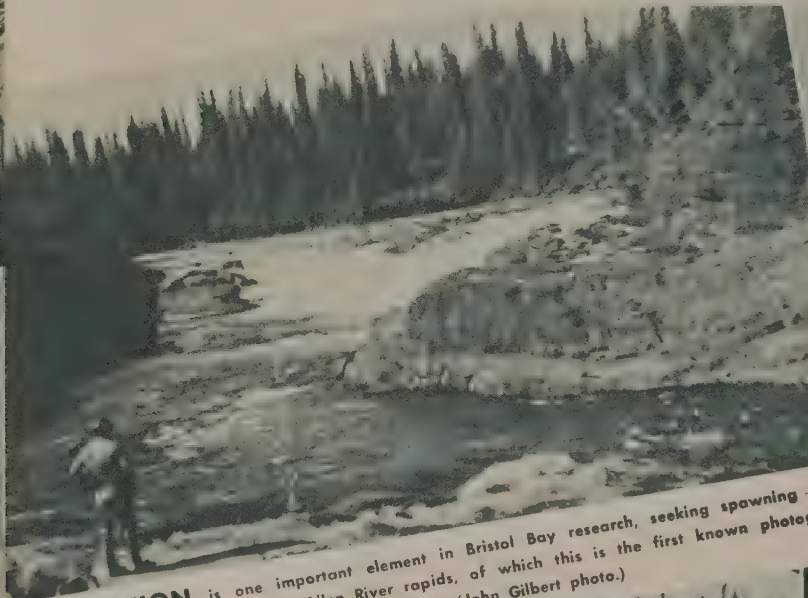
Above: A fishing vessel unloads its catch to *Pacific Explorer* off Costa Rica.

Below: *Pacific Explorer* fills one of its fishing vessels with ice.



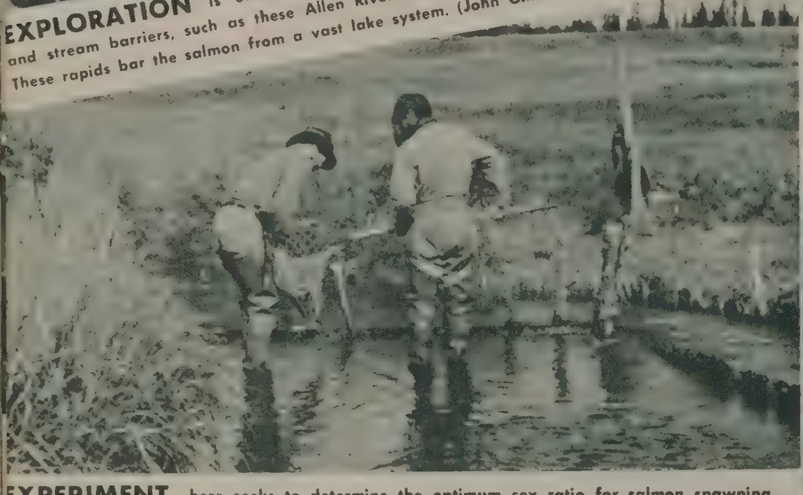
INDUSTRY SPONSORS

Scientific research seeking solution of some of the perplexing problems of salmon biology is being sponsored by groups of salmon canners in the Bristol Bay and Southeast Alaska districts. This enterprise stands-out in the world's fisheries as the prime example of industry voluntarily providing for the highest kind of independent research, supplementing official studies in the search for sound biological facts as a basis for wise conservation and protection of the resource. On this page are pictures representative of several phases of the Bristol Bay research program.

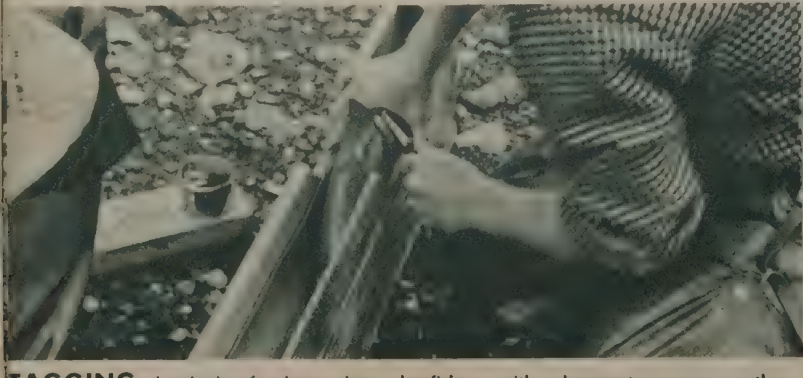


EXPLORATION is one important element in Bristol Bay research, seeking spawning areas and stream barriers, such as these Allen River rapids, of which this is the first known photograph. These rapids bar the salmon from a vast lake system. (John Gilbert photo.)

MEASUREMENT and scale-sampling can tell much about selectivity of gear, age composition of the run, age and sex size variations. In this Bristol Bay Research Committee photo, Dr. W. F. Thompson is taking measurements.



EXPERIMENT here seeks to determine the optimum sex ratio for salmon spawning. Pens of fish are studied during spawning and the eggs recovered to determine what sex ratio is most productive. (Ole Mathisen photo.)



TAGGING hundreds of salmon above the fishery, with subsequent recovery on the spawning grounds, is one of the most effective keys for unlocking the secrets of the salmon. Here is work on the beach at Egegik. (Robert Baade photo.)

SPAWNING streams are examined meticulously to determine the extent of spawning. Live fish are estimated and dead ones are counted. Here is a stream-bed covered with the bodies of fish which have spawned and died. (BBRC photo.)

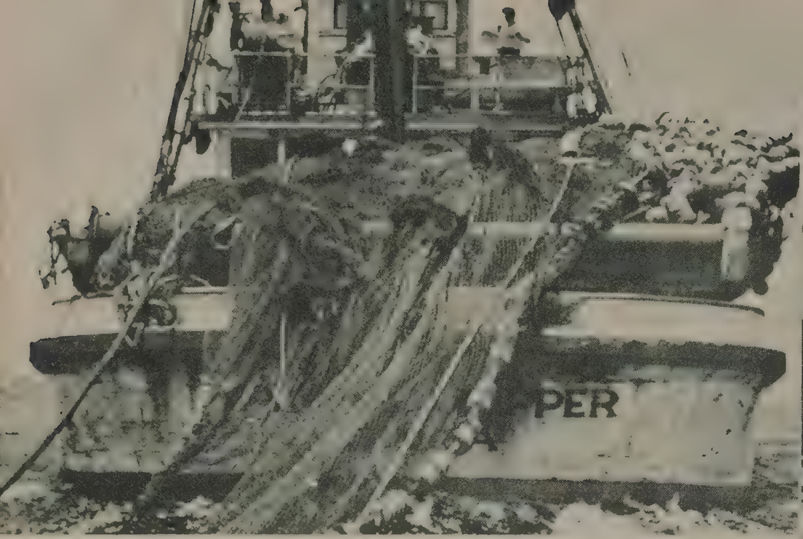
SCIENTIFIC RESEARCH

Investigations sponsored and financed by Alaska salmon packers are conducted by the Fisheries Research Institute of the University of Washington, new-formed in 1947 under the directorship of Dr. William F. Thompson, perhaps the most eminent aquatic biologist in the world. This institute was formed as a continuing agency through which industry might provide for research of the highest standards into its problems of biology and technology. Investigations in Alaska are coordinated with and supplement those of the federal government, and seek to serve in full the public interest.

SOUTHEAST ALASKA research was concerned with many aspects of the run, and particularly with migration routes and rates. Use of traps and seines in this area made it possible to tag salmon in the fishery by taking them from the spillers of traps or buying them uninjured out of the bunts of purse seines.

Two of the photographs on this page show the tagging crews working on floating traps, where the fish are dipped from the trap, quickly tagged and released.

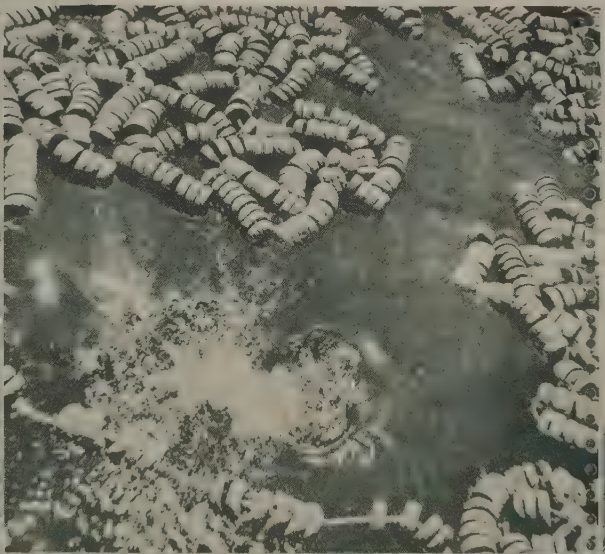
Another picture shows the white plastic tag, which is pinned through the fish's back. The lower photographs show the tagging crew working from a pot scow in a standing trap; and the process of dipping salmon from a purse seine into a floating live-net, from which they will be marked.



TUNA PURSE SEINING
New Factor in Pacific Ocean Fishery

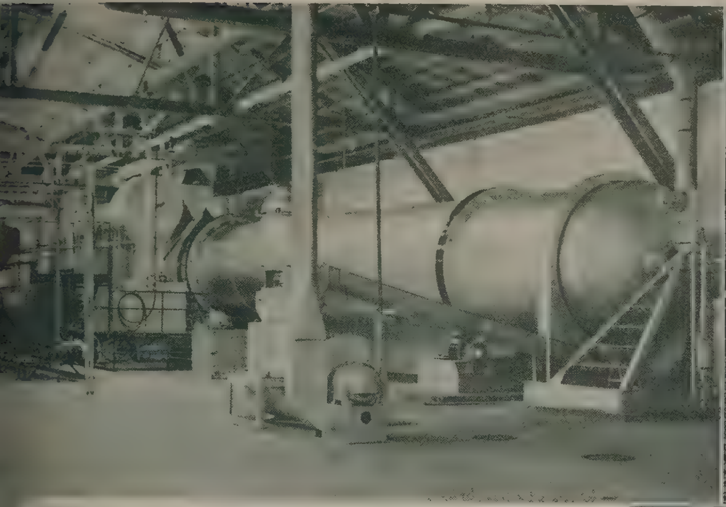
In 1947 purse seining produced a larger quantity of tuna—and a larger proportion of the catch—than ever before in the history of this American fishery. The use of purse seiners for fishing tuna has accelerated swiftly with perfection of refrigeration methods and equipment; and has been stimulated because live bait is not needed with this form of gear—and live bait is often hard to find. Because of this fact, some fishermen believe seining will be the answer to tuna fishing problems in mid-Pacific, where bait is scarce.

These pictures are all by courtesy of the seiner *Yankee Clipper*. In the upper left picture, a seiner is setting her net around a school of fish spotted by the lookout. In the lower left, the catch is being brailed from the net to hold. At the right above, the crew is fleeting-home the net after landing a big catch of Skipjack tuna.

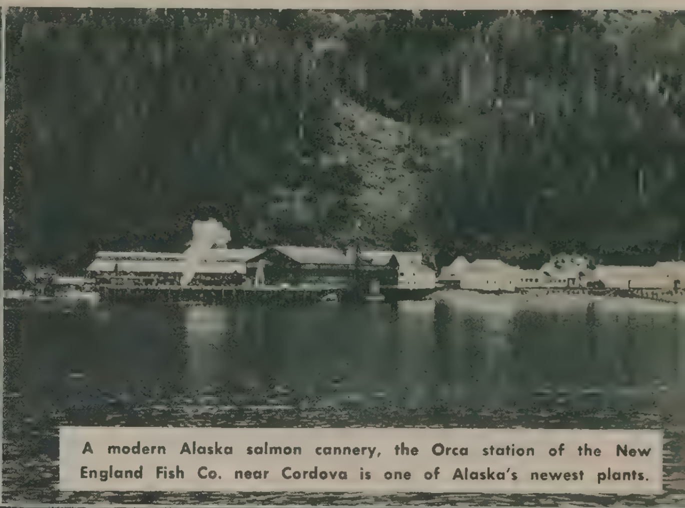


At the left, tuna are shown fighting in the net, as the cork floats serve to confine their struggles; and, below, the exhausted giants are drawn to the surface by the meshes of the net.

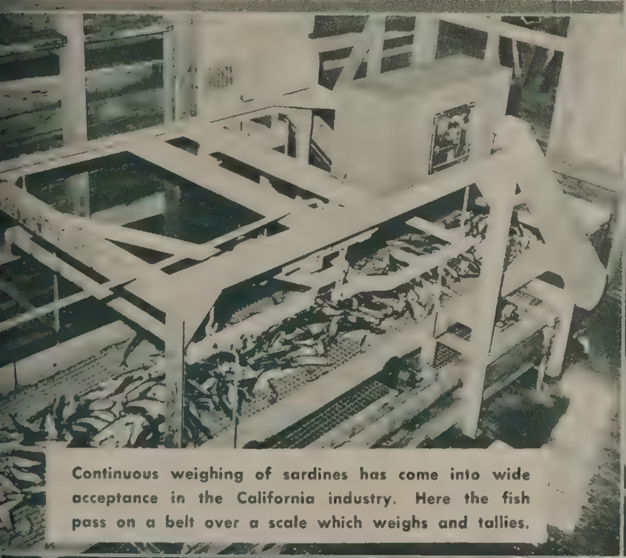
MEN, WOMEN, MACHINES
In Today's Modern Pacific Fish Canneries



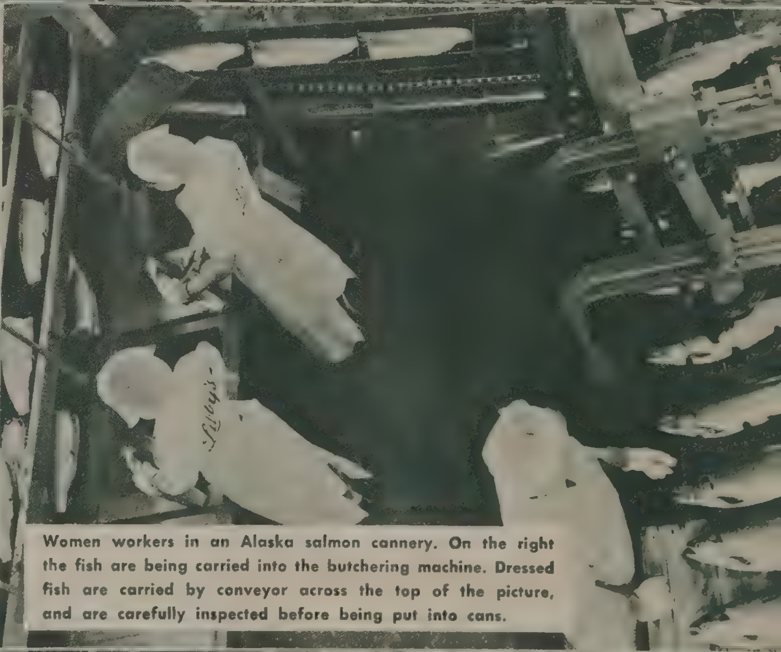
Interior view of the modernly designed, modernly equipped sardine reduction plant built by Central Packing Co. at Monterey in 1947. This plant is mechanized in all steps.



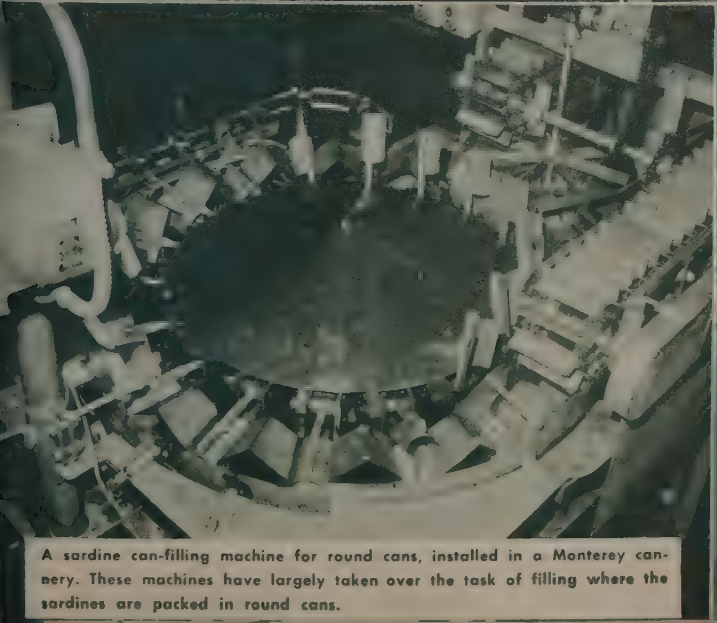
A modern Alaska salmon cannery, the Orca station of the New England Fish Co. near Cordova is one of Alaska's newest plants.



Continuous weighing of sardines has come into wide acceptance in the California industry. Here the fish pass on a belt over a scale which weighs and tallies.



Women workers in an Alaska salmon cannery. On the right the fish are being carried into the butchering machine. Dressed fish are carried by conveyor across the top of the picture, and are carefully inspected before being put into cans.



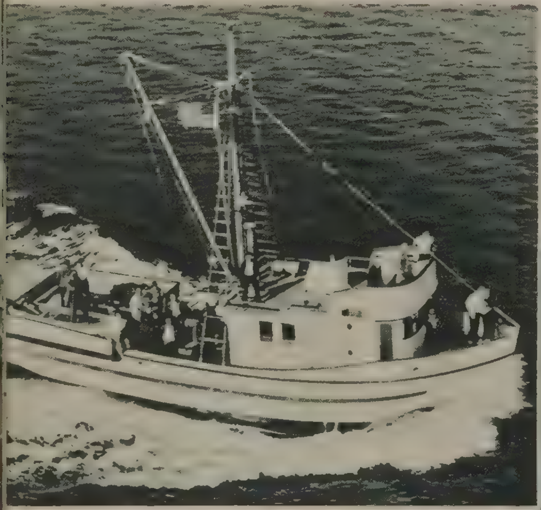
A sardine can-filling machine for round cans, installed in a Monterey cannery. These machines have largely taken over the task of filling where the sardines are packed in round cans.

Crab canning came late to California, but the plants are modern and admirably equipped. This picture shows the can-filling and closing operation in a Eureka cannery late in 1947.

Here are two sharply different steel tuna-fishing vessels designed by H. C. Hanson, Seattle. *Amberjack* is a 75-footer, built to fish for Hawaiian Tuna Packers, Ltd., Honolulu, and carefully planned to conform to established mid-Pacific tuna fishing practice. *West Point* is the compact new 112-foot steel clipper built in 1947 for Sverre and Chris Jangaard and Carl Hanken.

NEW PACIFIC VESSELS 1947-48

Defiance is a typical Pacific purse seiner of the smaller-size bracket, used largely for salmon seining, and frequently converted in season to otter trawling, halibut or Albacore.



Southern Queen is an outstanding member of that new class of Pacific fishing vessels—the refrigerated purse seiner-built and equipped specifically for tuna fishing. This steel craft is 100' in length and is equipped with two twin 6 by 6 ice machines. Owners are Joe Vilicich and A. K. Anderson.

Lorelei II is a new and excellent example of the Pacific "co bination" fishing vessel, designed specifically for use in h but, Albacore, shark, and trawl fishing.

Lucky Star is a prime exxample of the modern, moderate- steel tuna vessel, 106' in length.

Supreme is a modern type of larger salmon troller, 48' le and is shown here rigged for Albacore bait fishing.

MODERN PACKING PLANTS

From Alaska to Mexico, Salmon to Shrimp

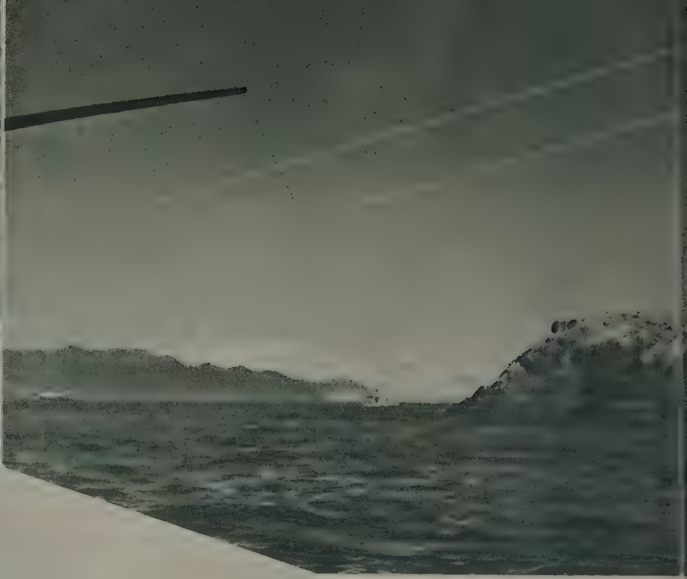
On the left, reading down—
Modern metal construction is employed in this shrimp-packing room of a new freezing plant at Guaymas, Sonora, Mexico. All work surfaces are metal.

This modern salmon cannery is located in the heart of downtown Portland, Ore., far from tidewater. It reflects the trend toward concentration of fish at strategic centers for packing.

On the right, reading down—
Annette Islands Canning Co. plant, owned by the Alaska Native community of Metlakatla on Annette Island, not far from Ketchikan.

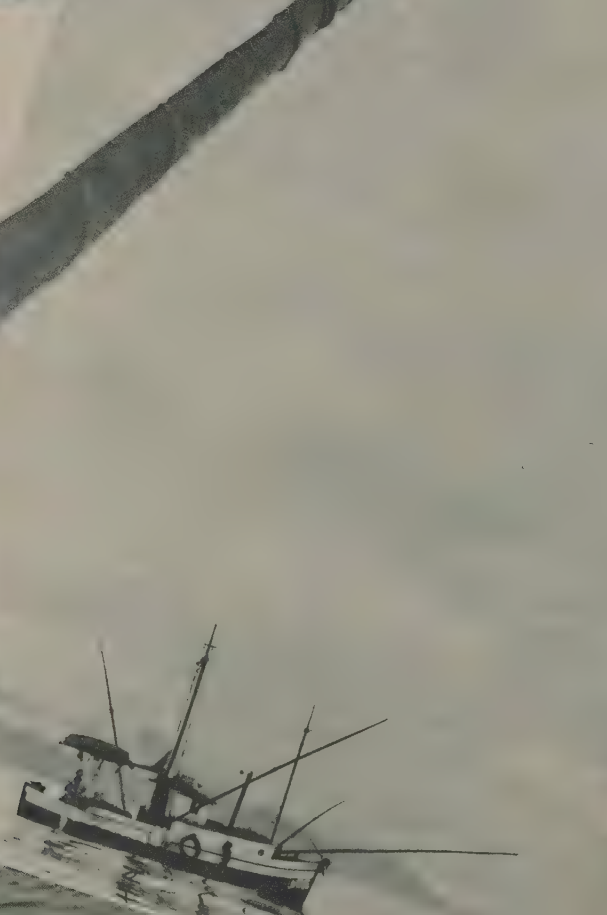
Interior of the packing room of the People's Packing Corporation tuna cannery, built in 1947 at San Diego as the epitome of the clean, modern, efficient, straight-line fish cannery.

Machines unload coolers, order the cans, and deliver them one at a time to the casing equipment in a modern Alaska salmon cannery.



Something New in Tolling . . .

It is not often that the commercial fisherman learns something from the sportsman—but in recent years that has been true in the case of salmon plugs. This lure, long employed by the sport fisherman in fresh water and salt, has swept into the commercial field. Note that the troller in the picture below is using plugs.

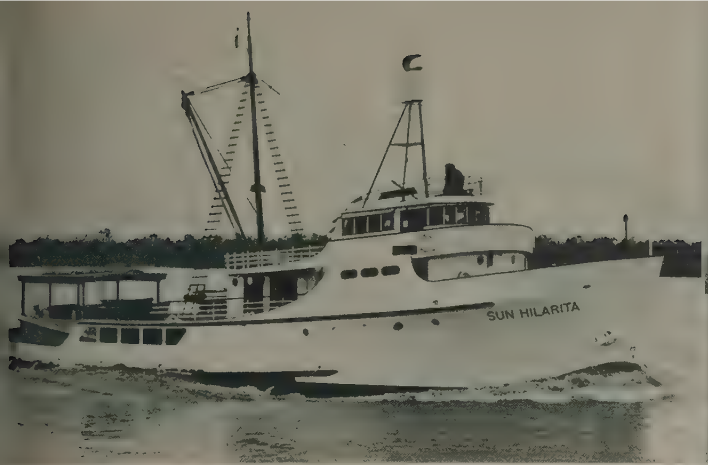


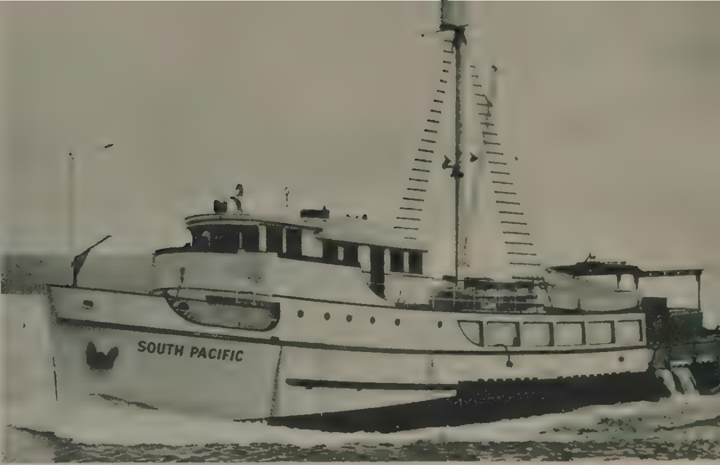
TROLLING ICY WATERS

Below Great Glaciers

The salmon trolling fleet constitutes the largest single category of Pacific ocean fishing vessels—6,000 in number. The 1947 salmon trolling season was the best in recent years. These three fishing pictures by Maxcine Williams show typical Alaska trollers fishing in the cold waters of Cross Sound, with the glaciers of the Mount Fairweather Range forming an almost Arctic background.

It is from icy waters such as these that the highest-priced salmon of the Pacific are taken. The upper view shows boats working close to Boomer Rock, a famous spot for Silvers. Note the fishing lines crossing the picture.

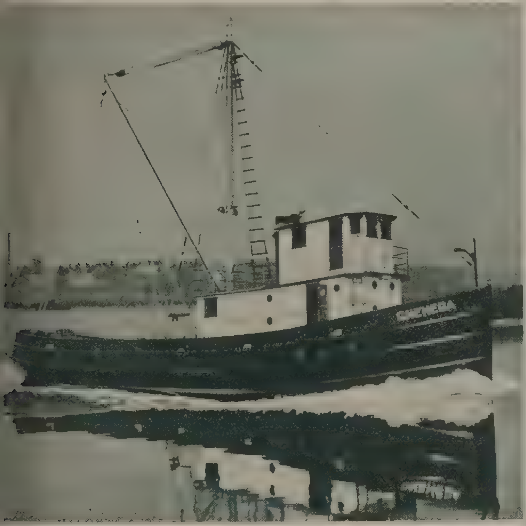




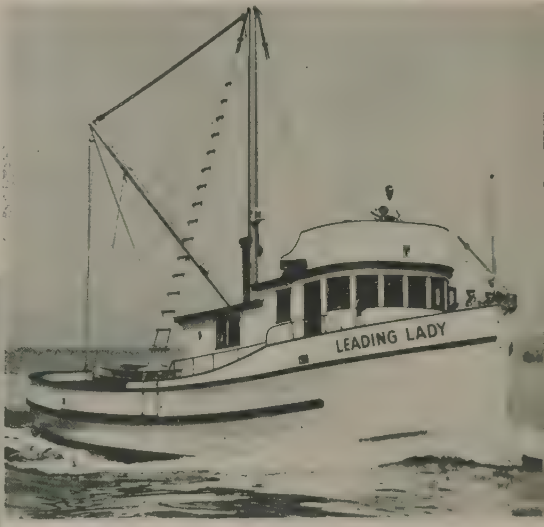
Sun Hilarita is one of the series of five great steel tuna clippers built at New Orleans for service in the Pacific tuna fisheries. Her length of 132′ enables her to carry 335 tons of tuna in full refrigeration. *South Pacific* is a 105′ clipper featured by an exceptionally low profile, which serves to keep weights low and stability high—always a factor of importance in a tuna vessel.

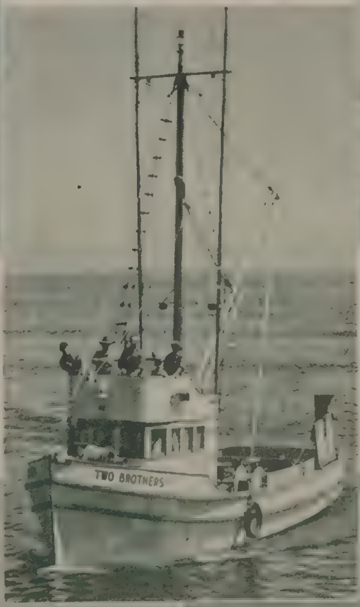
TYPICAL from Troller to Tunaman

Chenega is an unusual salmon cannery tender, commissioned in 1947 by Copper River Packing Co. One of three identical craft, her hull was that of a never-completed Army tug, which was lengthened 13′ to 78′.

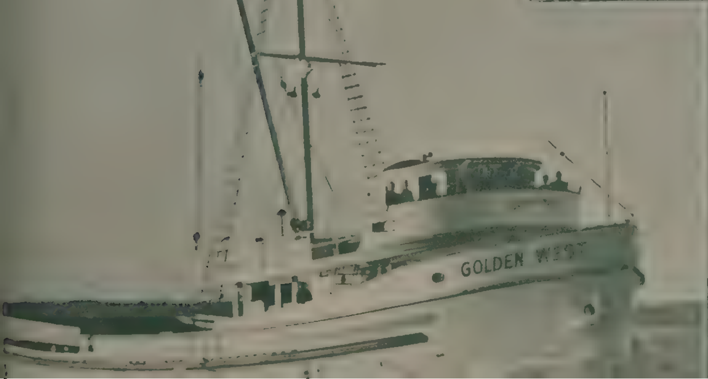


Leading Lady is a "combination" fishing vessel, which will serve as a cannery tender during the Alaska salmon season for Grimes Packing Co. Her length is 63′ and she is a model proven in halibut, Albacore, shark and trawling.

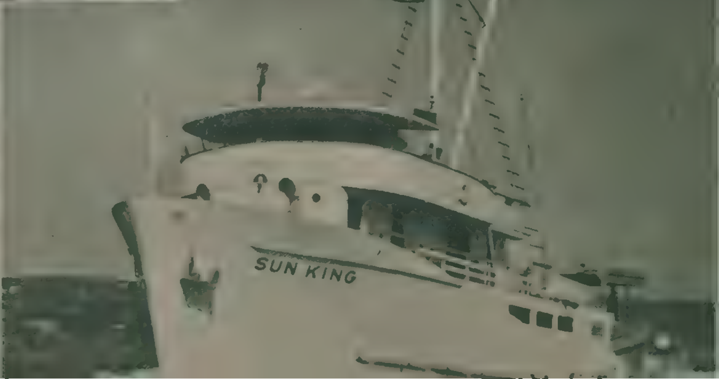


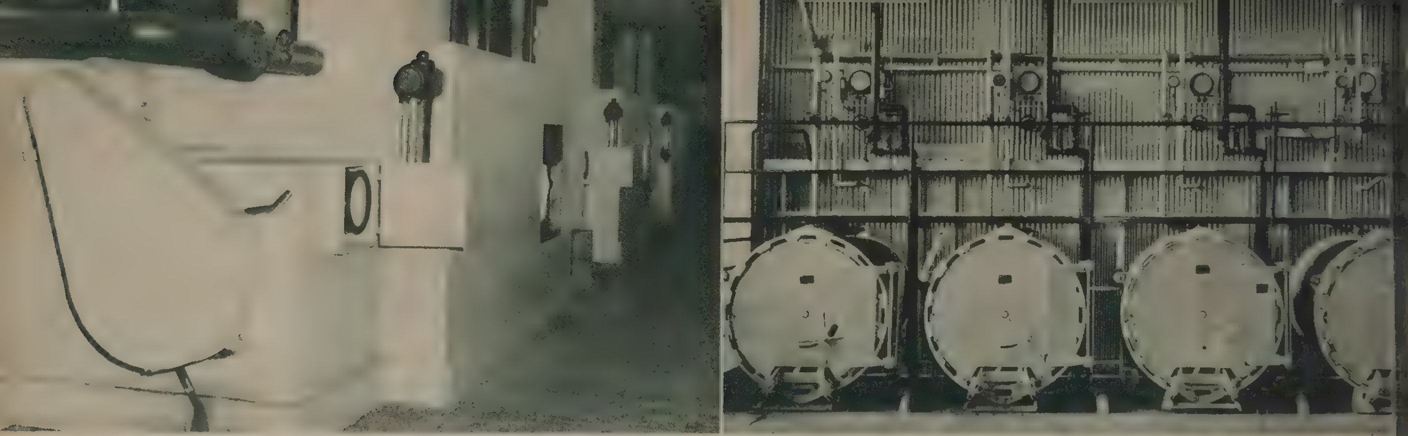


Golden West is a 98′ purse seiner, designed particularly for tuna seining, but capable of engaging in sardine seining efficiently. She is of wood construction and is owned by John and George Stanobich and Louis LaMont, with seven other associates. The vessel is shown here on Puget Sound before heading south to fish tuna for French Sardine Co.



Sun King is a competent clipper which joined the Sun Harbor Packing Co. fleet in 1947. She is commanded by Capt. Joe Fernandes and is a 112-footer, carrying 820 total horsepower and exceptionally complete instrumentation. *Two Brothers* is a Monterey Bay salmon troller and Albacore jigboat, whose otter trawl equipment is evidence of her exceptional versatility.



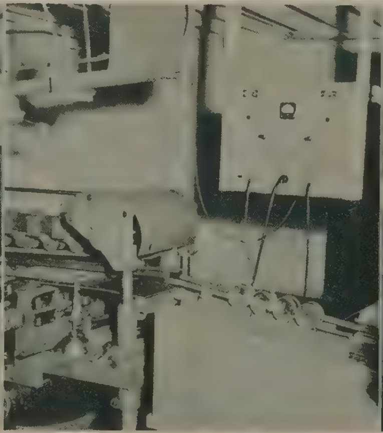


The pictures above show two typical, but opposite, applications of automatic control instruments to Pacific fish processing. On the left, instruments control and record brine temperatures in tuna freezing tanks. The photograph on the right shows temperature and pressure recorders and regulators on the battery of retorts in a California sardine cannery.

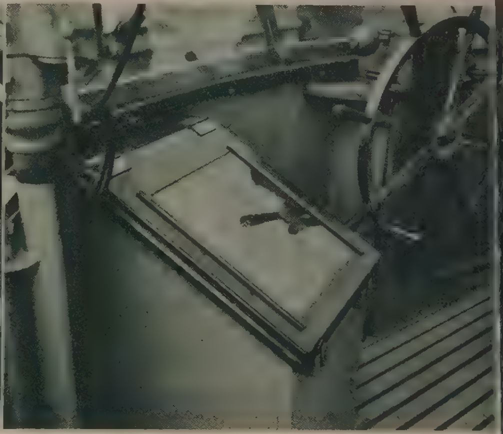
INSTRUMENTS CONTROL

Fishing, Navigation and Processing

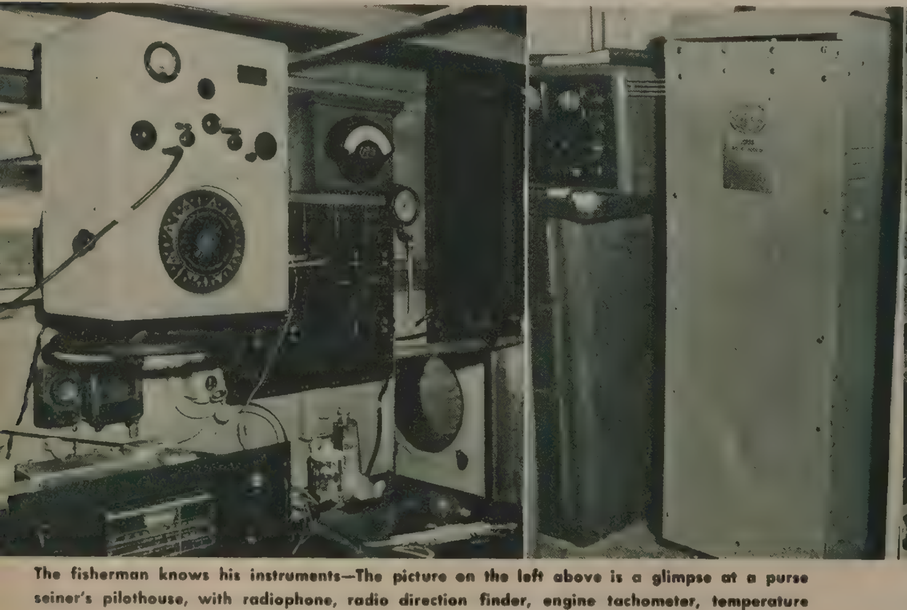
Radar is coming into wide employment in the larger Pacific fishery craft; and automatic steering is almost standard equipment. Here both are combined in a modern factory ship.



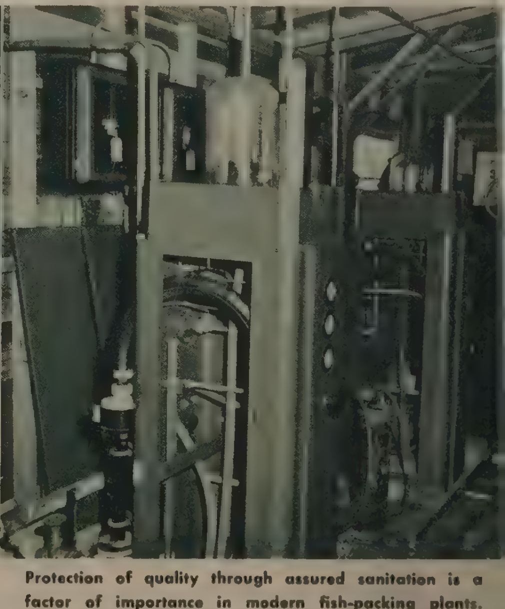
Electronic detection tubes are here employed to reject any improperly labelled cans as they leave the labelling machine.



His echo-sounder is a fisherman's right arm, and he uses it for fishing as well as navigation. Here a sounder is installed on the fishing bridge of a herring seiner, hard-by the helm.



The fisherman knows his instruments—The picture on the left above is a glimpse at a purse seiner's pilothouse, with radiophone, radio direction finder, engine tachometer, temperature and pressure warning panel, and recording echo-sounder. The small picture, right above, shows how compactly loran can be installed upon a fishing vessel. This is on the Pacific trawler *Deep Sea*, giving her precise navigation in waters far from radio beacons.



Protection of quality through assured sanitation is a factor of importance in modern fish-packing plants. Here are automatic chlorinators installed to treat all water used about the cannery as a guarantee against contamination. Such equipment is being widely used.

THERE IS NO SUBSTITUTE FOR COLOR REALISM

Color can tell a story faster and more effectively than words. A story of appetite appeal...and food goodness. And what a story Color can tell for the tuna, salmon, and other fine fish that come from our western waters! Color . . . as Schmidt Lithograph Company knows how to apply it! Let's talk it over.

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LITHOGRAPH COMPANY
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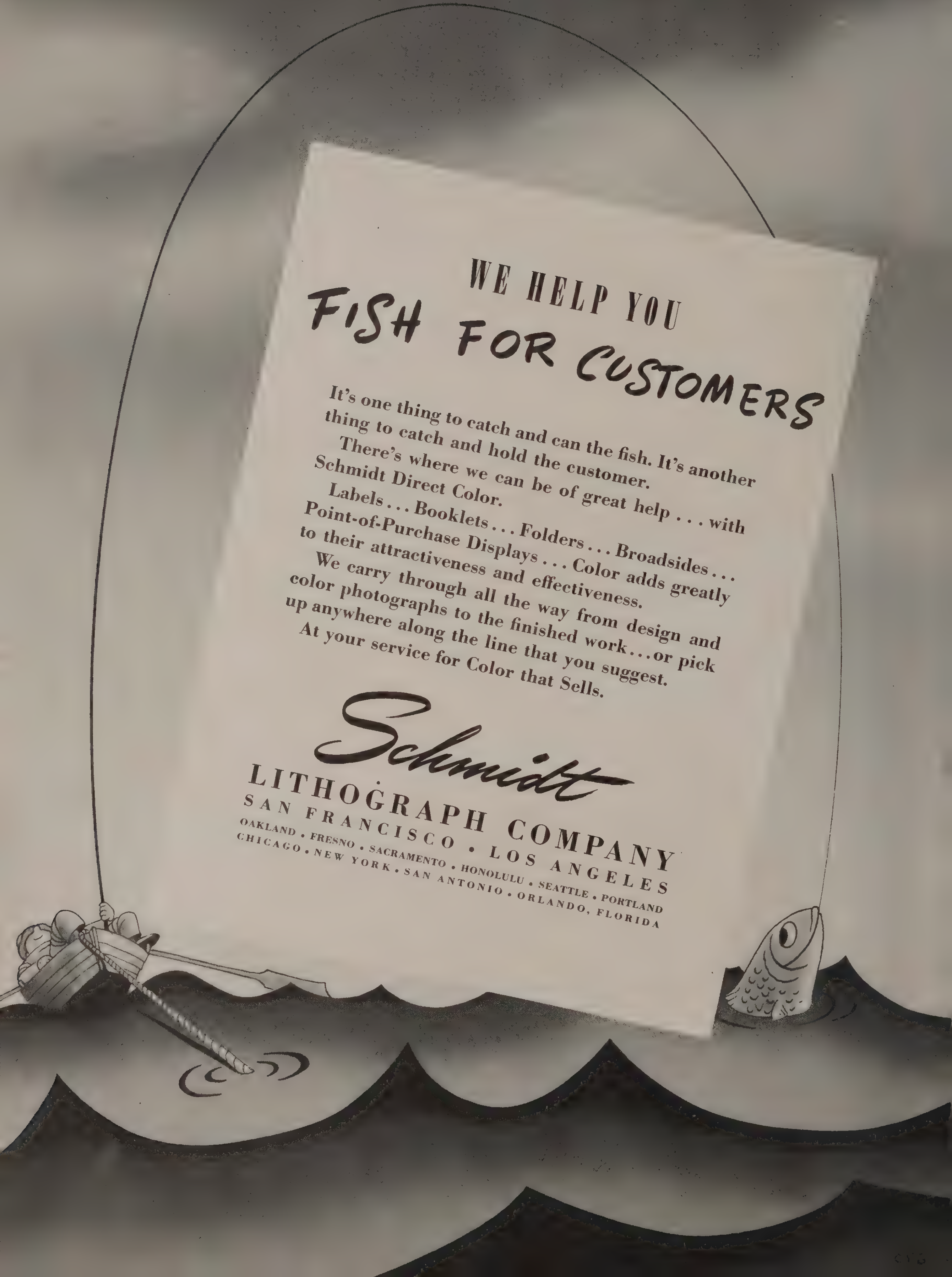
OUR 75th ANNIVERSARY



WE HELP YOU
FISH FOR CUSTOMERS

It's one thing to catch and can the fish. It's another thing to catch and hold the customer.

There's where we can be of great help . . . with Schmidt Direct Color.

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Doubling the previous year's production, Pacific Northwest tuna canners packed 385,570 cases of Albacore in 1947.

This was the third-best pack in the history of the business, falling far short of the 1944 Bonanza, and being somewhat under the yield of 1945, but far out-stripping the 192,000 cases packed in 1946.

Tuna packing in the Pacific Northwest in 1947 produced 272,888 cases of standard and fancy-pack Albacore and 112,682 cases of flakes for an aggregate pack of 385,570 cases.

This was just a bit more than twice the yield of the fishery for 1946.

The season started excellently, with the jig fishermen making fine trips, and there was some ground for hope that the year would be perhaps the second-best in the history of the industry. This prospect dimmed, however, as the season advanced, and the latter half was rather poor.

As result of this condition, the jig boats had a relatively good season, while the bait boats found only disappointing results.

For the second consecutive year the fish seemed to be found in greatest abundance to the south of the Columbia River, an unusually large proportion of the catch being delivered at Yaquina Bay.

This tendency also resulted in Washington operators canning a smaller-than-usual percentage of the pack.

Fish Price Skyrockets

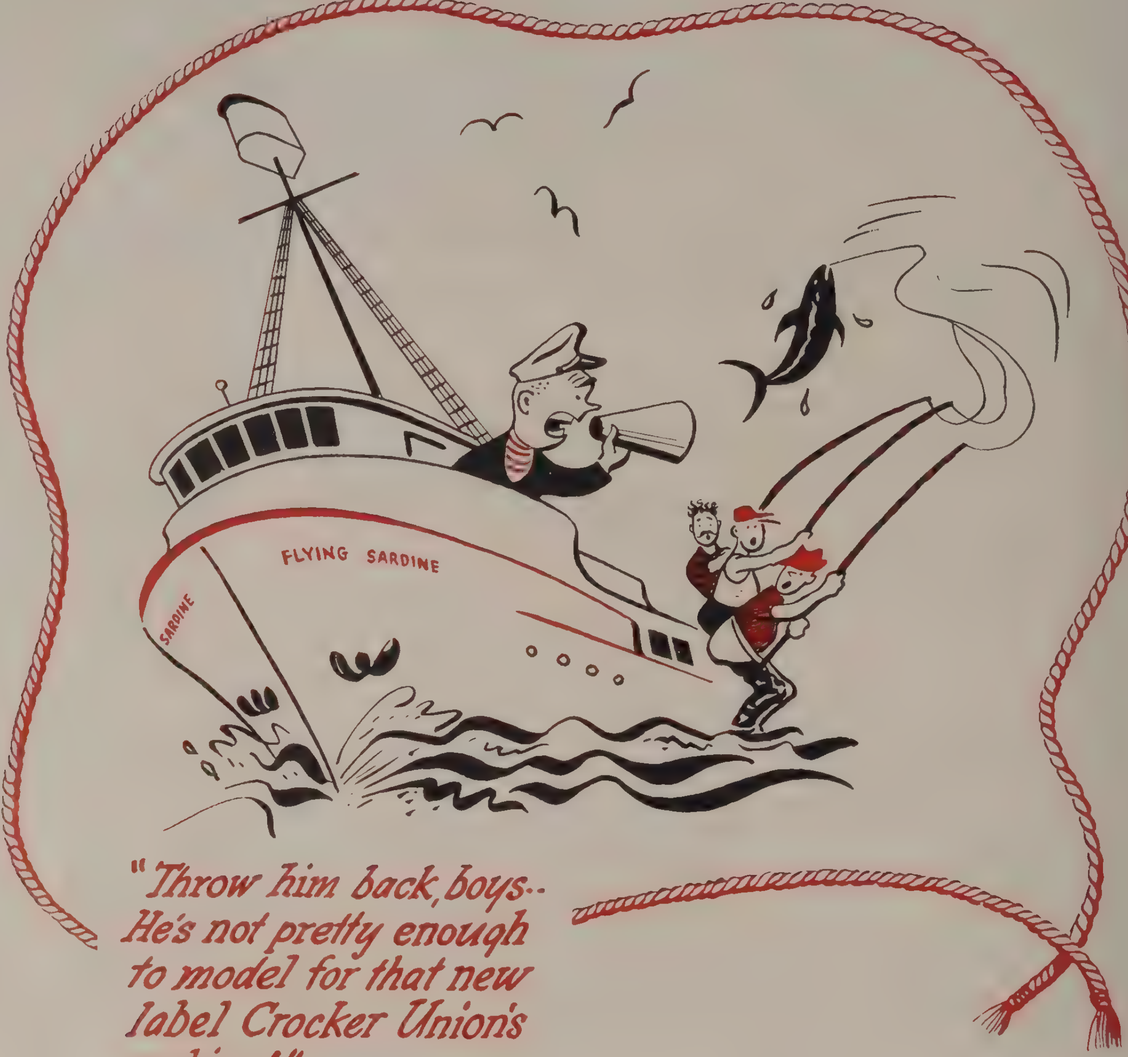
First deliveries of Albacore at Pacific Northwest ports brought the fishermen $410 per ton (or such was the announced price). This figure did not last long, however, and was bid-up almost as rapidly as the boats arrived with their fares.

1947—PACIFIC NORTHWEST ALBACORE PACK—1947

COMPANY	CANNERY LOCATION	FANCY AND STANDARD		SHREDDED, GRATED AND FLAKES		Total Standard Cases, 4 dozen ½-Lb. Cans
		½-LB. 48s	OTHER SIZES AS THEY RUN	WHITE ½-LB. 48s	White and Dark Blend	
Barbey Packing Co	Astoria, Ore	3,446		409	854	**4,709**
Chinook Packing Co	Chinook, Wash	543		77	223	**843**
Columbia River Packers Association, Inc	Astoria, Ore	68,601		17,080	24,874	**110,555**
Columbia River Salmon Co	Astoria, Ore	16,705		7,859		**24,564**
Copalis Cannery Co	Seattle, Wash	372		71		**443**
Crown Packers, Inc	Hoquiam, Wash	2,672		567	777	**4,016**
Deep Sea Products Co	Aberdeen, Wash	5,318		2,850	2,431	**10,599**
DelMar Cannin Co	Warrenton, Ore	4,290		2,836	604	**7,730**
Dungeness Crab, Inc	Westport, Wash	1,142		548		**1,690**
Kaakinen Fish Co	Westport, Wash	5,280		2,262		**7,542**
KeystouclPocking Co	Ilwaco, Wash	552			88	**640**
Lazio Fish Co., Tom	Eureka, Calif	3,231		985		**4,216**
Nelson Crab & Oyster Co	Tokeland, Wash	2,750		925	350	**4,025**
New England Fish Co	Newport, Ore	6,963		1,156		**8,119**
Paragon Packing Co	Astoria, Ore	40,002		9,360	7,801	**57,163**
	Portland, Ore	1,358	(a) 391	330	(b) 488	**2,477**
Point Adams Packing Co	Hammond, Ore	17,398	1,084	(c) 4,268	1,232	**25,066**
Sebastian-Stuart Fish Co	Astoria, Ore	1,953		517		**2,470**
South Bend Oyster Co	South Bend, Wash	2,988		1,421		**4,409**
Strand Fisheries	Hoquiam, Wash	4,500		350		**4,850**
UnioulFishermen's Cooperative Packing Co	Astoria, Ore	11,819		1,785	3,481	**17,085**
Van Camp Sea Food Co	Astoria, Ore	27,349		411		**27,760**
Washington Fish Co	Aberdeen, Wash	1,100				**1,100**
West Coast Fish Co	Aberdeen, Wash	7,224		996	347	**8,567**
Whiz Fish Products Co	Hoquiam, Wash	7,372		1,112	1,660	**10,144**
Yaquina Bay Fish Co	Newport, Ore	25,491		3,167	6,130	**34,788**
Totals		**270,419**	**1,475**	**61,342**	**51,340**	**385,570**

NOTE:—This table includes only Albacore tuna caught in Pacific Northwest waters. Tuna of other species caught elsewhere and canned in Pacific Northwest plants not included.

(a) No. 10 cans, 6 to the case. (b) Includes 74 cases of No. 10 cans, 6 to the case, counted at their equivalent in halves. (c) Includes 156 cases of 1-lb. flats 48, counted at their equivalent in halves.


FLYING SARDINE
SARDINE
"Throw him back, boys.. He's not pretty enough to model for that new label Crocker Union's making!"

Yes sir, a fish has to have a mighty handsome profile to look as good as his picture on your label when Crocker Union produces it for you!

You see, we've been making labels for some of the West's most prominent sea food packers for over 40 years. We can do the job from design to finished product. Just tell us what you want and we'll take it from there. And when the job is done, you'll have a label that speaks eloquently of the quality and tastiness of your pack.

What's more, it will be a label that will help move your canned goods off the shelf—a label that will spell more profit to you. Why not call in Crocker Union? That way, you'll be *sure* of results!

SAN FRANCISCO • SEATTLE • LOS ANGELES

BALTIMORE • NEW YORK • CHICAGO

Crocker Union
DIVISION OF H. S. CROCKER CO. INC.
SINCE 1856

NORTH COAST ALBACORE PACKS BY PORTS, 1939 to 1947

Oregon Coast Cases	Columbia River Cases	Total Cases	Year	Pacific Northwest Regional Total Cases	Year	Total Cases	Willapa Harbor Cases	Grays Harbor Cases	Puget Sound Cases
(a) 47,123	281,062	(a) 328,185	1947	(a) 385,570	1947	57,385	8,434	48,508	443
23,243	121,386	144,629	1946	192,237	1946	47,608		47,608	
55,747	348,958	404,705	1945	466,859	1945	62,154		62,154	
40,000	(b) 750,356	790,356	1944	846,596	1944	56,240		56,240	
8,000	282,536	290,536	1943	301,414	1943	10,878		10,878	
	307,810	307,810	1942	314,353	1942	6,543		6,543	
	194,833	194,833	1941	197,629	1941	2,796		1,176	1,620
	197,535	197,535	1940	207,723	1940	10,188		4,908	5,280
2,118	151,584	153,702	1939	(c) 173,359	1939	15,857		3,100	12,757

(a) Includes 4,216 cases canned at Eureka, Calif. (b) Division of 1944 pack between Columbia River and Oregon Coast is only approximate. (c) Includes 3,800 cases canned in British Columbia.

NOTE:—Data for the several calendar years cover packs made from fish caught during those years, even though in some cases canning of frozen stocks may not have been completed until in the next calendar year.

1947 -- WASHINGTON ALBACORE LANDINGS -- 1947

Port	July		August		September		October		Season	
	Trips	Pounds	Trips	Pounds	Trips	Pounds	Trips	Pounds	Trips	Pounds
Bellingham	1	450	2	1,501					3	**1,951**
Port Angeles			1	3,494					1	**3,494**
Seattle	4	40,744	39	151,228	4	3,720	9	25,352	56	**221,044**
Neah Bay	3	4,311	39	21,608	11	4,843	1	128	54	**30,890**
La Push	7	7,359	21	19,985					28	**27,344**
Grays Harbor	249	1,030,570	615	2,133,044	46	65,899	8	32,898	918	**3,262,411**
Willapa Harbor	24	43,786	40	92,529	4	10,785			68	**147,100**
Ilwaco	43	140,469	93	239,120					136	**379,589**
Chinook			7	21,425					7	**21,425**
Total	**331**	**1,267,689**	**857**	**2,683,934**	**65**	**85,247**	**18**	**58,378**	**1,271**	**4,095,248**
Average Weight per Fish		11.7		12.8		15.3		*		

* Data unavailable.

Before the end of July the price was fairly steady at $550 per ton, although it was not until nearly the middle of August that this quotation was being offered openly. Previous practice—for some obscure reason—had been to offer $515 above the counter, and then to pay an additional $35.

At the very end of the season, when the Albacore had shifted to the south, but when some very good loads were being delivered on Coos Bay and Humboldt Bay, the price actually went to $600 per ton.

Fish Scouting Tried

The bait boats *Dorene B* and *Spitfire,* Capts. Neil Burton and Al Brunner, went to the Hawaiian Islands in advance of the appearance of Albacore on the mainland, and after working in the islands for a time fished their way home along the supposed route of the Albacore, but without noteworthy announced success in tracing the migration of the tuna.

Imported Yellowfin Canned

The practice of bringing frozen tuna from sub-tropical waters to the Pacific Northwest for canning was initiated in 1946 by Van Camp Sea Food Co., and was continued on a larger scale in 1947 by this company.

In addition to the Van Camp activity on frozen Yellowfin, the refrigerated factory ship *Pacific Explorer* brought a cargo of 2,272 tons of frozen tuna to Astoria from Costa Rican waters, where the vessel operated in a federally-sponsored run to test the feasibility of such a vessel receiving and freezing tuna on the high seas for subsequent delivery to mainland domestic canneries.

Figures on the production of tuna canned in the Pacific Northwest from fish taken in distant waters are not included in the accompanying statistical tables.

Mexican Shrimp Shipments

Imports of green shrimp from the Gulf of California in 1947, to the end of November totaled 9,363,455 lbs. Another 2,000,000 lbs. probably crossed the international border in December, approximately 264 carloads. Much of it was labeled under the familiar "Ocean Garden" brand, and distributed by Marine Products Co., San Diego. A number of other concerns, established in the past year or so, are also shipping into this country.

For the first time in many years trawling for shrimp in the Gulf did not have a closed season for the entire industry. However, the shallow bays lining the west coast of Mexico were declared closed on Feb. 1 and this continued until the fall season began.

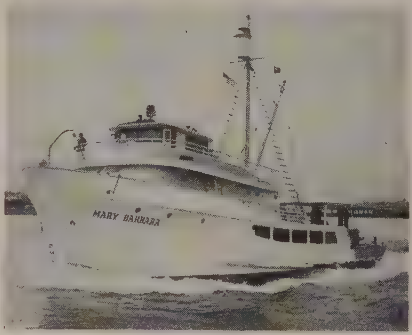
Jack Mackerel Canned In Ovals With Tomato

An important development in November was the processing of horse mackerel in 1-lb. ovals in tomato sauce. It was started Nov. 1 by Pan Pacific Fisheries, Terminal Island, and the innoviation was soon taken up by the industry from Los Angeles harbor to Monterey. It was estimated the industry put up from 25,000 to 30,000 cases total in this style.

FOR BETTER REFRIGERATION

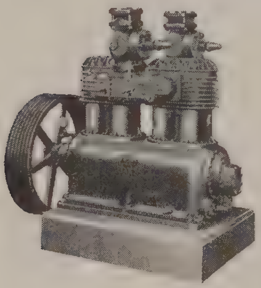
. . . BETTER BUY BAKER

On hundreds of the Pacific Fishing Fleet's most successful tuna clippers, purse seiners and trawlers you'll find Baker refrigeration. For Baker has long been a leader in the field. Its engineers have the experience and know-how to meet the exacting requirements of fishing vessels and Baker equipment is ruggedly built for years of reliable, trouble-free service. Whether you're planning a new boat or want to modernize your present set-up let Baker help you design a high-performance installation — tailored to your particular needs.

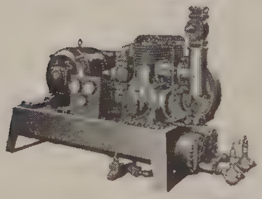


It's Baker on the Mary Barbara. One of the most modern steel tuna clippers, the 106′ Mary Barbara was designed by G. Bruce Newby of Long Beach and built by National Iron Works, San Diego for People's Packing Corp. It's all-brine refrigeration system was engineered by BAKER to handle 160 tons of tuna on trips ranging up to 12,000 miles.

BAKER OFFERS A COMPLETE LINE OF TOP-QUALITY EQUIPMENT FOR EVERY REFRIGERATION JOB

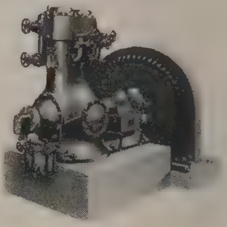


"Freon-12" Compressors—Four-Cylinder type, available in sizes from 3 hp to 60 hp. Semi-steel cylinders and pistons. Counter-balanced crankshaft, precision ground. Timkin roller main bearings. Full force feed lubrication is furnished by gear type oil pump.

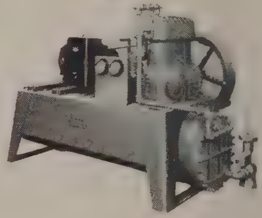


"Freon-12" Water-Cooled Condensing Units — Complete line of self-contained, automatic units. Sizes range from ½ hp to 60 hp capacity. Two- and four-cylinder types. Shell and tube condenser-receiver.

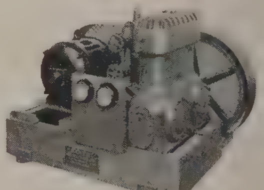
"Freon-12" Compressor Units —Arranged for use with evaporative type condenser or separately mounted shell and tube condensers. Sizes range from 3 hp to 60 hp. Two- and four-cylinder types. Automatic controls.



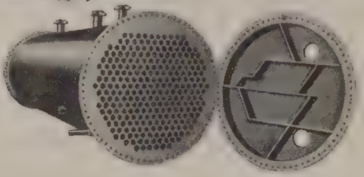
Ammonia Compressors (3 to 100 hp) — Vertical enclosed, single-acting type. Can be installed in multiple installations. V-belt drive or direct connection to motors or engines. Double suction and capacity reduction in larger sizes.



Ammonia Water-cooled Condensing Units (2 to 15 hp) — Excellent for all industrial applications. Shell and tube type condensers with pressure-operated water control valve. Compact design economizes floor space.



Ammonia Compressor Units (3 to 20 hp) — Designed for quick installation and ready accessibility to all unit parts. For use with evaporative or separately mounted shell and tube type condenser. Full enclosed automatic control with overload and low-voltage protection. Two- or four-cylinder compressor, V-belt drive.



Baker Shell and Tube Condensers and Liquid Coolers for use with Ammonia or "Freon-12" (1 to 250 tons capacity) — Made in sizes up to 2500 square feet of cooling surface in single shells. Available for multi-unit installation with special stands to allow compact installation. Supplied in either horizontal multi-pass or vertical type. Heads may be removed quickly and easily for complete cleaning. Tubes are spaced to provide even gas distribution throughout the shell. All valves of maximum size for greatest efficiency.

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NORTH PACIFIC ALBACORE TUNA LANDINGS

OREGON				WASHINGTON					Combined Oregon and Washington Landings, Pounds
COLUMBIA RIVER, Pounds	SOUTH OF COLUMBIA, Pounds	Oregon Total, Pounds	1947	PUGET SOUND, Pounds	GRAYS HARBOR, Pounds	WILLAPA HARBOR, Pounds	COLUMBIA RIVER, Pounds	Washington State Total, Pounds	
673,647	362,169	**1,035,816**	July	45,505	1,037,929	43,786	140,469	**1,267,689**	**2,303,505**
2,027,945	584,636	**2,612,581**	August	177,831	2,153,029	92,529	260,545	**2,683,934**	**5,296,515**
2,092,618	2,304,774	**4,397,392**	Septmeber	8,563	65,899	10,785		**85,247**	**4,482,639**
817,813	310,021	**1,127,834**	October	25,480	32,898			**58,378**	**1,186,212**
5,612,023	**3,561,600**	**9,173,623**	**1947 TOTALS**	**257,379**	**3,289,755**	**147,100**	**401,014**	**4,095,248**	**13,268,871**
			1946						
323,331	70,559	393,890	July	172	289,029	23,505	46,995	**359,701**	**753,591**
1,741,573	629,466	2,371,039	August	24,675	778,484	33,936	148,526	**985,621**	**3,356,660**
1,155,319	30,556	1,185,875	September	165,491	624,818		1,743	**792,052**	**1,977,927**
3,220,223	**730,581**	**3,950,804**	**1946 TOTALS**	**190,338**	**1,692,331**	**57,441**	**197,264**	**2,137,374**	**6,088,178**
			1945						
			June		42		6,730	**6,772**	**6,772**
1,147,222	306,909	**1,454,131**	July	119,847	1,850,105	21,572	196,118	**2,187,642**	**3,641,773**
6,290,075	1,612,425	**7,902,500**	August	92,797	3,009,811	75,900	335,131	**3,513,639**	**11,416,139**
2,327,060	262,702	**2,589,762**	September	28,130	140,779	28,609	9,608	**207,126**	**2,796,888**
231,978		**231,978**	October	104,491	45,882	517		**150,890**	**382,868**
			November	842	44			**886**	**886**
9,996,335	**2,182,036**	**12,178,371**	**1945 TOTALS**	**346,107**	**5,046,663**	**126,598**	**547,587**	**6,066,955**	**18,245,326**
			1944						
975,332	612,585	**1,587,917**	July	34,686	741,058	3,347	247,912	**1,027,003**	**2,614.920**
6,288,455	2,690,529	**8,978,984**	August	141,553	4,683,789	68,714	660,234	**5,554,290**	**14,533,274**
7,708,799	1,069,649	**8,778,448**	September	279,354	3,536,677	161,052	125,037	**4,102,120**	**12,880,568**
3,014,988	58,367	**3,073,355**	October	206,906	786,177		14,355	**1,007,438**	**4,080,793**
17,987,574	**4,431,130**	**22.418.704**	**1944 TOTALS**	**662,499**	**9,747,701**	**233,113**	**1,047,538**	**11,690,851**	**34,109.555**
			1943						
1,333,241	419,371	**1,752,612**	July		300,247		185,711	**485,958**	**2,238,570**
2,922,206	1,160,977	**4,083,183**	August	22,920	1,393,057		338,333	**1,754,310**	**5,837,493**
2,646,887	689,252	**3.336,139**	September	169,788	1,566,949		132,534	**1,869,271**	**5,205,410**
1,067,015	147,007	**1,214,022**	October	284,112	250,411		4,616	**539,139**	**1,753,161**
7,969,349	**2,416,607**	**10,385 956**	**1943 TOTALS**	**476,820**	**3,510,664**		**661,194**	**4,648,678**	**15,034,634**
			1942						
Division of	Landings not	**2,040,981**	July		177,522	900	175,975	**354,397**	**2,395,378**
avail	able.	**4,799,557**	August	30,131	777,508	7,576	369,717	**1,124,932**	**5,924,489**
		3,701,392	September	11,162	282,703	74,406	55,346	**423,617**	**4,125,009**
		401,026	October	9,365	46,619	206	15,922	**72,112**	**473,138**
		10,942,956	**1942 TOTALS**	**50,658**	**1,284,352**	**83,088**	**556,960**	**1,975,058**	**12,918,014**
			1941						
514,084	264,806	**778,890**	July	643	20,459		74,468	**95,570**	**874,460**
4,700,037	952,512	**5,652,549**	August	15,428	359,407		381,037	**755,872**	**6,408,421**
756,615	307,356	**1,063,971**	September	34,218	90,562	149	38,618	**163,547**	**1,227,518**
44,315	122	**44,437**	October	28,711	6,664			**35,375**	**79,812**
5,284		**5,284**	November						**5,784**
6,020,335	**1,524,796**	**7,545,131**	**1941 TOTALS**	**79,000**	**477,092**	**149**	**494,123**	**1,050,364**	**8,595,495**

NORTH COAST ALBACORE BY GRADES—1939 to 1947

OREGON				YEAR	PACIFIC NORTHWEST COMBINED TOTALS, STANDARD CASES	YEAR	WASHINGTON			
FANCY AND STANDARD CASES	FLAKES		TOTAL STANDARD CASES				TOTAL STANDARD CASES	FLAKES		FANCY AND STANDARD CASES
	WHITE	BLENDED						BLENDED	WHITE	
231,075	50,163	45,464	(a) **326,702**	1947	(a) **385,570**	1947	**58,868**	5,876	11,179	41,813
101,478	23,477	19,674	**144,629**	1946	**192,237**	1946	**47,608**	7,251	5,708	34,649
274,720	69,454	55,674	(d) **399,848**	1945	**466,859**	1945	**67,011**	7,391	9,440	50,180
564,574	106,777	119,005	**790,356**	1944	(b) **846,596**	1944	**56,240**		16,240	40,000
250,982	39,554		**290,536**	1943	**301,414**	1943	**10,878**		1,775	9,103
			307,810	1942	**314,353**	1942	**6,543**			
			194,751	1941	**197,629**	1941	**2,878**			
			197,735	1940	**207,723**	1940	**10,188**			
			153,702	1939	(c) **173,359**	1939	**15,857**			

(a) Includes 3,231 cases fancy and 985 cases flakes canned at Eureka, Calif.

(b) Division of 1944 pack as to grades is approximate only.

(d) Includes a small quantity canned at Ilwaco, Wash.

(c) Includes 3,800 cases canned in British Columbia.

NOTE:—Grade segregations not available for years prior to 1943. Figures for the several calendar years cover quantities packed from fish caughtduring those years, even though ins ome cases canning of frozen stocks may not have been completed wutil the next calendar year.

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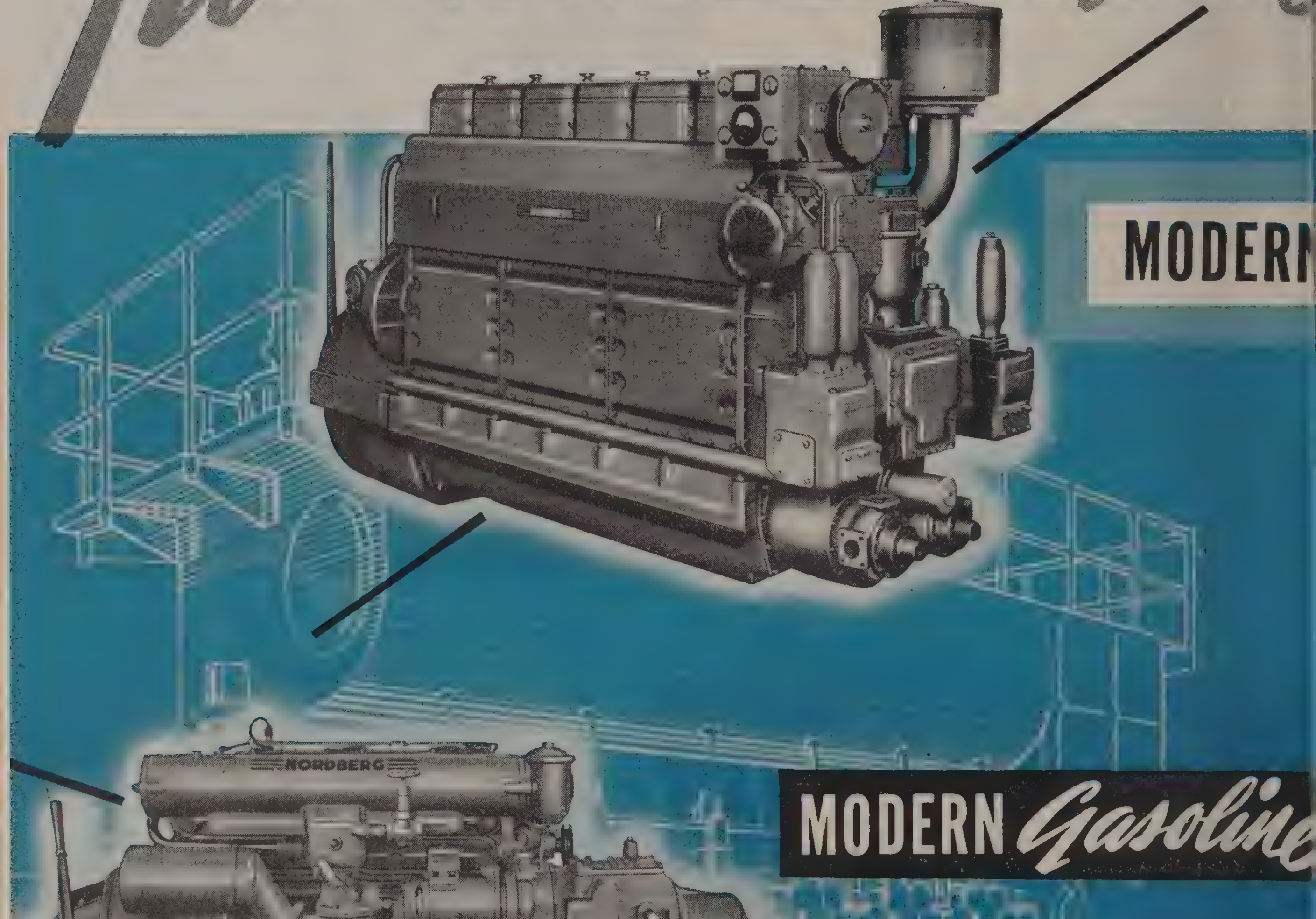

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Engines now available in SMALLER sizes

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NORDBERG now offers you in the new 9" and 13" bore Marine Engine Series, the same high quality of engineering skill, craftsmanship and modern manufacturing methods that have won an outstanding reputation in the manufacture of large NORDBERG Diesel Engines.

These new Marine Diesels incorporate the latest modern features—Simple, Compact, Sturdy Design; Trouble-Free Pressure Lubrication; High-Velocity Cooling; Quick, Responsive, Easy Controls.

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Engines Models 230-320-340

THESE GASOLINE ENGINES were designed by the most widely experienced and successful engineers in the marine field and incorporate many practical and outstanding features, such as: NORDBERG-Designed-and-Built Internal Helical Gears and Pinion-Type Reduction Gears; NORDBERG-Designed-and-Built Planetary-Type Reverse Gear, (88% Reverse); High-Velocity Cooling through Six Drilled Passages, Providing Efficient Cooling of Valve Seat Areas; Large Access Openings to Facilitate Cleaning and Inspection.

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NORDBERG MARINE DIESEL ENGINES

9" Bore—Built in 6, 7, 8-Cylinder Models.

CONTINUOUS DUTY RATING

Non-Supercharged
—42 HP/Cyl. at 600 R. P. M.
Supercharged
—62.5 HP/Cyl. at 600 R. P. M.

Recommended speeds for marine service—600 and 720 R. P. M.

13" Bore—Built in 6, 7, 8-Cylinder Models.

CONTINUOUS DUTY RATING

Non-Supercharged
— 93 HP/Cyl. at 450 R. P. M.
Supercharged
—140 HP/Cyl. at 450 R. P. M.

Recommended speeds for marine service—450 and 514 R. P. M.

Above models are medium speed engines, direct reversing; designed for direct drive or a wide range of reduction gear ratios.

These 9" and 13" Bore NORDBERG-designed Diesels are built by the BUSCH-SULZER *Division, St. Louis, Missouri.*

NORDBERG MARINE GASOLINE ENGINES

Models 230-320-340—four-cycle, six-cylinder type, in sizes up to 135 B. H. P. at 3000 R. P. M. Available for direct or reduction-gear drive in ratios of 1.88, 2.44, 3.32 and 4.12, fitting power requirements from high-speed 17-foot runabouts to twin-screw medium cruisers up to 80 feet—and work boats up to 50 feet in length.

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1947 CALIFORNIA SARDINE LANDINGS

Dates	San Francisco Tons	Monterey Tons	San Pedro Tons
August 1-4—Light of the Moon.			Season closed until October 1.
5		11	
6		15	
7		14	
8		17	
9		16	
10			
11		341	
12		234	
13		695	
14		1,808	
15		576	
16		101	
17			
18		536	
19		709	
20		166	
21		36	
22		87	
23		227	
24			
25		1,170	
26		225	
27		157	
28		27	
Light of the Moon.			
Scattering in August	72		
September			
3		22	
4		1,028	
5		30	
6		2	
7			
8		693	
9		40	
10		137	
11		54	
12		30	
13			
14			
15		21	
16		33	
17		19	
18			
19		6	
20		19	
21			
22	8	6	
23		19	
24		10	
25			
Light of the Moon.			
30			
Light of the Moon.			
October 4			8,662
5			
6		20	8,922
7		21	3,519
8		51	3,933
October			
9		24	1,242
10	10		4,218
11		350	6,652
12			
13			6,502
14			1,658
15		37	2,563
16		110	1,290
17		48	1,666
18		92	1,676
19		38	
20		58	2,253
21		200	2,483
22			1,916
23			1,384
24		45	1,307
25		1	610
26—Light of the Moon.			
29		137	
November			
4		128	1,076
5		20	1,072
6			801
7		150	2,505
8		450	2,687
10			885
11			1,357
12			173
13			253
14			176
15			1,110
17			666
18		80	712
19		7	364
20		97	257
21			190
22			21
24			34
25			119
26—Light of the Moon.			
December			
2			4
3		200	
4		112	25
8			25
9			158
10			13
11			157
12			67
13			415
15		450	98
16			294
17			438
18		14	
19			269
20			120
22			105
23			170
24—Light of the Moon.			

1947—BRITISH COLUMBIA HERRING PRODUCTION—1947

Week or Period Ending	Fish Landed Tons	Canned Herring				Fresh and Bait Tons	Herring Meal Tons	Herring Oil (Imprrial Gallons)
		1-Lb. Talls Cases	1-Lb. Ovals Cases	½-Lb. Ovals Cases	Total Full Cases			
January 11, 1947	7,401.47	31,143	34,058	3,272	68,473	149.80	596.70	45,770
January 18, 1947	14,390.45	85,841	69,135		154,976	123.75	2,116.70	116,380
January 25, 1947	6,495.42	52,231	39,385		91,616	213.00	496.25	7,722
February 1, 1947	2,865.50	3,160	1,826		4,986	520.25	218.50	7,722
March 1, 1947	3,504.00	20,092	529		20,621	829.00	176.45	11,493
March 10, 1947	7,349.50	58,128	31,270	853	90,251	1,347.25	504.60	11,494
Total Spring Season	**42,006.34**	**250,595**	**176,203**	**4,125**	**430,923**	**3,183.05**	**4,109.20**	**200,581**
October 4, 1947	2,707.85	8,846	35,452	536	44,834		151.00	26,962
October 10, 1947	5,867.25	3,137	79,459	317	82,913	1.00	459.05	80,826
October 18, 1947	9,051.02	8,509	101,296	2,374	112,179	74 69	444.65	78,267
October 25, 1947	9,800.13	14,956	122,911	2,541	140,408	52.19	853.45	175,949
November 1, 1947	11,779.68	30,284	143,180	888	174,352	85.25	834.25	140,129
November 8, 1947	7,931.36	25,502	105,825	3,648	134,975	71.99	755.74	112,711
November 15, 1947	1,649.01	5,034	3,772		8,806	21.00	155.80	57,552
November 22, 1947	5,085.89	20,521	12,591		33,112	114.38	736.45	75,087
November 29, 1947	7,451.09	20,134	24,366	50	44,500	168.84	913.02	103,355
December 6, 1947	7,157.42	37,435	5,335		42,770	168.84	998.65	90,152
December 20, 1947	8,932 28	45,277	64,599	394	110,870	287.07	910.03	151,067
Total Fall Season	**77,412.98**	**219,635**	**698,786**	**10,748**	**929,719**	**1,045.25**	**7,212.09**	**1,092,057**
Grand Total	**119,419.32**	**470,230**	**874,989**	**14,873**	**1,360,642**	**4,228.30**	**11,321.29**	**1,292,638**
1946 Spring Season	29,376.48	71,537	61,290	21,975	154,802	3,304.71	3,437.30	251,838
1946 Fall Season	67,691.61	80,281	886,889	40,802½	1,007,972½	5,718.73	4,364.25	644,777
1946 Grand Total	**97,068.09**	**151,818**	**948,179**	**62,777½**	**1,162,774½**	**9,023.44**	**7,801.55**	**896,615**
1945 Spring Season	61,906.03	80,001	127,202	55,418	262,621	3,558.05	8,350.96	490,214
1945 Fall Season	70,193.36	67,296	1,056,310	30,290	1,153,896	1,131.10	4,420.45	610,643
1945 Grand Total	**132,099.39**	**147,297**	**1,183,512**	**85,708**	**1,416,517**	**4,689.15**	**12,771.41**	**1,100,857**

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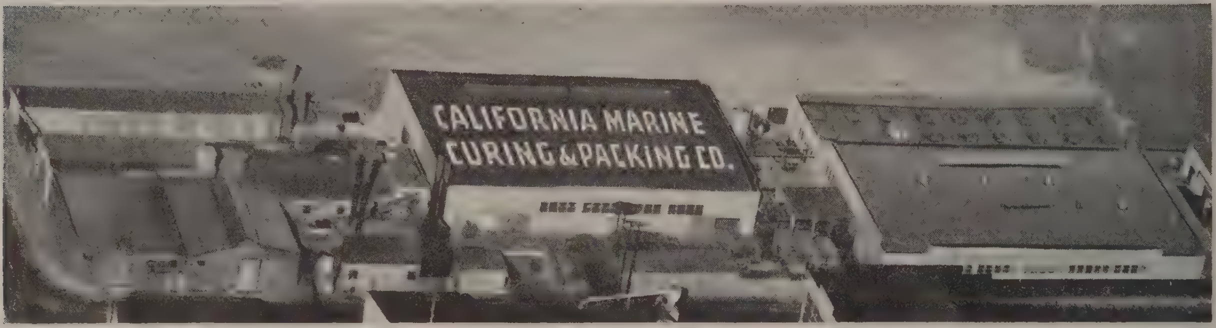

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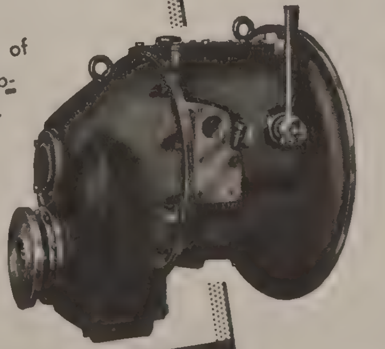

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SARDINES

Sardine scarcity spread to Southern California in 1947, and the result was a pack of canned sardines smaller than in any year since 1933.

The yield of 1,712,494 cases was less than half that of many seasons.

In the northern end of the fishery, centering at San Francisco and Monterey, the failure extended for a second year; and struck the Southern California area severely after the season was well started.

Despite a scarcity of sardines unprecedented in the history of America's greatest tonnage fishery, California sardine canners in 1947 packed 1,712,494 cases of sardines.

This compared with an aggregate pack of 3,102,232 cases in 1946, and was the lowest pack for any year since 1933.

The Los Angeles Harbor district, with San Diego production included, accounted for 1,376,227 cases, a pack less than half the 2,748,812 cases put up in 1946.

Although the catch of sardines in the Monterey area was markedly less than in 1946, that district managed to keep its pack close to figures for the preceding year by dint of transporting substantial tonnages from the south—a practice which of course reduced the pack of the southern region.

Monterey and San Francisco combined—with Monterey doing virtually all the canning—put-up a pack of 335,267 cases in 1947.

Included with these figures are some quantities of sardines in which anchovies were used in lieu of pilchards. These small fish were generally regarded as entirely comparable to pilchards in quality, although the cost of packing was greater.

Stringent Limitations Expected

As 1947 ended, California's sardine processors, concluding a second season even more disastrous than that of 1946-47, foresaw stringent rules and regulations to be laid down by the Fish and Game Commission. Also on the horizon was a comprehensive research program, designed to discover if possible the cause of the failures of the 1946-47 and 1947-48 sardine seasons.

It became apparent at a meeting of the Fish and Game Commission Dec. 12, 1947, that the Bureau of Marine Fisheries desired the commission to have introduced emergency legislation during the interim session of the legislature further controlling the California sardine industry, but at that meeting it was not divulged just how far this legislation might go.

To aid the governor and legilature in working out a program, a

1947—CALIFORNIA SARDINE PRODUCTION—1947

Months	San Francisco				Monterey				San Pedro and San Diego				Grand Total Cases
	Tons of Fish	Cases 1-Lb. Ovals	Cases Other Sizes	Total Cases	Tons of Fish	Cases 1-Lb. Ovals	Cases Other Sizes	Total Cases	Tons of Fish	Cases 1-Lb. Ovals	Cases Other Sizes	Total Cases	
January	219		4,080	4,080	303	174	3,916	4,090	8,325	31,434	81,620	113.054	**121,224**
February					330	2,238	2,107	4,345	11,809	30,243	96,040	126,283	**130,628**
March					241		5,267	5,267					**5.267**
April					131		2,536	2,536					**2,536**
May					1,216		21,010	21,010					**21,010**
June					910		15,953	15,953					**15,953**
July					3,837		68,029	68,029					**68,029**
S5ring Total	**219**		**4,080**	**4,080**	**6,335**	**2,412**	**118,818**	**121,230**	**20,134**	**61,677**	**177,660**	**239,337**	**364,647**
August	72				7,332	44,959	61,501	106,460					**106,460**
September	6	111		111	2,215	16,108	16,176	32,284					**32,395**
October	20	110		110	1,231	10,512	11,780	22,292	65,110	280,428	607,918	888,346	**910,748**
November	191	1,046	2,775	3,821	1,360	15,557	7,156	22,713	16,713	108,842	102,702	211,544	**239,078**
December	74				1,591	14,817	7,349	22,166	2,762	19,000	18,000	37,000	**59,166**
Fall Total	**533**	**1,267**	**2,775**	**4,042**	**13,729**	**101,953**	**103,962**	**205,915**	**83,984**	**408,270**	**728,620**	**1,136,890**	**1.347,847**
Grand Total	**752**	**1,257**	**6,855**	**8,122**	**20,064**	**104,365**	**222,780**	**327,145**	**104,118**	**469,947**	**906,280**	**1,376,227**	**1.712,494**

Cases other sizes are given in numbers equivalent to cases, 1-lb. Ovals.

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For the Fisherman we provide a sound outlet for his canning fish of all species, at all seasons.

LONG BEACH

SOUTH PACIFIC CANNING COMPANY

LONG BEACH, CALIFORNIA

CALIFORNIA CANNED SARDINE PACK -- 1912 TO 1947

YEAR	MONTEREY AND SAN FRANCISCO BAY DISTRICT							SAN PEDRO DISTRICT						SAN DIEGO DISTRICT			Grand Total Cases	YEAR
	1-Lb. Ovals (Cases)	1-Lb. Talls (Cases)	½-Lb. Cans Miscellaneous (Cases)	½-Lb. Fillets (Cases)	5-Oz. Talls (Cases)	Other Sizes (Cases)	Total Cases	1-Lb. Ovals (Cases)	1-Lb. Talls (Cases)	½-Lb. Cans Miscellaneous (Cases)	5-Oz. Talls (Cases)	Other Sizes (Cases)	Total Cases	¼-Lb. Square (Cases)	Other Sizes (Cases)	Total Cases		
1912	17,702	.....	.....	.....	.....	1,072	18,774	.....	.....	.....	.....	.....	.....	.....	.....	.....	18,774	1912
1913	73,686	.....	.....	.....	.....	.....	73,686	.....	.....	.....	.....	.....	.....	.....	.....	.....	73,686	1913
1914	80,834	.....	.....	.....	.....	.....	80,834	.....	.....	.....	.....	.....	.....	.....	.....	.....	80,834	1914
1915	46,625	.....	.....	.....	.....	609	47,234	.....	.....	.....	.....	.....	.....	.....	.....	.....	47,234	1915
1916	97,100	.....	.....	.....	.....	8,532	105,632	2,512	.....	.....	.....	3,296	5,808	5,856	48,799	54,655	166,095	1916
1917	331,065	.....	.....	.....	.....	29,809	363,472	131,347	.....	.....	.....	546,033	679,120	71,466	76,136	147,602	1,190,194	1917
1918	593,448	.....	.....	.....	.....	26,151	619,609	325,587	.....	.....	.....	433,374	758,961	67,785	38,633	106,418	1,484,979	1918
1919	805,884	.....	.....	.....	.....	27,084	832,968	125,784	.....	.....	.....	105,741	231,514	39,613	47,420	87,033	1,151,515	1919
1920	.....	.....	.....	.....	.....	.....	706,726	.....	.....	.....	.....	.....	244,900	.....	.....	111,370	1,062,996	1920
1921	287,954	.....	.....	.....	.....	10,975	298,929	77,048	.....	.....	.....	3,765	80,813	8,033	1,337	9,370	389,112	1921
1922	353,188	.....	.....	.....	.....	1,479	354,667	340,938	.....	.....	.....	6,096	347,034	20,986	6,154	27,140	729,034	1922
1923	580,984	.....	.....	.....	.....	10,001	590,985	490,064	.....	.....	.....	2,769	492,833	26,058	22,147	48,205	1,132,023	1923
1924	631,774	.....	.....	.....	.....	22,416	654,190	693,133	.....	.....	.....	4,491	697,624	53,297	15,017	63,314	1,420,128	1924
1925	737,743	.....	.....	.....	.....	37,119	774,862	920,191	.....	.....	.....	2,685	922,876	22,656	33,385	56,041	1,753,779	1925
1926	1,158,133	.....	31,483	.....	.....	2,867	1,192,483	861,088	.....	.....	.....	21,702	861,481	15,761	72,658	88,419	2,163,755	1926
1927	1,341,872	.....	36,363	237	17,808	826	1,397,106	1,046,453	.....	.....	119,815	.....	1,166,268	37,839	24,199	62,038	2,625,412	1927
1928	1,511,535	4,569	43,754	159	80,252	2,495	1,642,764	945,676	9,652	.....	146,724	.....	1,099,052	30,540	42,974	73,514	2,815,330	1928
1929	2,039,526	54,618	16,969	11	75,101	2,187	2,188,412	1,438,159	76,271	8,072	168,039	33,753	1,724,294	10,979	17,774	28,753	3,941,459	1929
1930	1,579,408	74,043	19,692	391	141,524	3,751	1,818,809	863,254	106,460	2,909	228,965	8,138	1,209,726	16,429	24,560	40,989	3,069,524	1930
1931	1,004,215	43,722	11,280	.....	40,375	337	1,099,929	498,996	59,853	11,931	119,390	1,467	691,637	3,312	113	3,425	1,794,991	1931
1932	459,756	4,467	3,276	88	17,726	2,528	487,481	415,874	36,292	.....	54,197	.....	506,363	7,360	281	7,641	1,001,845	1932
1933	838,533	47,575	4,604	.....	38,013	1,532	930,217	365,750	57,969	.....	53,996	4,336	482,051	10,592	.....	10,592	1,422,860	1933
1934	1,091,158	48,769	6,527	8,361	67,913	2,675	1,225,413	531,619	119,506	.....	164,735	.....	815,860	195	10,268	10,463	2,051,736	1934
1935	1,126,466	218,523	39,566	91,525	128,168	27,704	1,631,952	615,808	135,531	25,519	112,264	251	889,373	.....	11,437	11,437	2,532,762	1935
1936	1,089,683	202,148	89,280	113,516	124,490	41,946	1,661,063	586,038	259,793	132,488	156,649	749	1,135,717	10,380	12,483	22,863	2,819,643	1936
1937	679,317	227,806	51,068	73,785	68,164	9,284	1,109,424	761,776	634,215	263,729	200,060	1,509	1,861,289	2,103	10,388	12,491	2,983,204	1937
1938	721,036	58,168	104,419	97,277	154,488	16,287	1,151,675	600,532	318,691	212,064	162,245	.....	1,293,532	19,056	.....	19,056	2,464,263	1938
1939	1,248,747	310,168	125,251	141,900	138,217	28,538	1,992,821	627,524	308,896	217,100	178,072	1,520	1,333,112	148	81	229	3,326,162	1939
1940	933,955	249,195	158,300	151,518	225,975	18,384	1,737,327	664,241	398,960	230,771	156,681	72	1,450,725	37	.....	37	3,188,089	1940
1941	1,601,506	1,092,720	234,093	182,703	296,568	54,961	3,462,551	689,210	870,256	216,972	151,384	2,136	1,929,958	2,279	496	2,775	5,395,284	1941
1942	802,795	663,309	8,283	75,386	94,755	59,695	1,704,223	619,881	1,342,030	85,776	90,672	2,918	2,141,277	.....	1,285	1,285	3,846,785	1942
1943	1,045,451	832,934	128,438	.....	20,208	36,037	2,063,068	400,504	846,314	44,516	26,507	2,235	1,320,076	.....	697	697	3,383,841	1943
1944	1,051,397	1,088,918	61,828	20,584	374	18,255	2,241,356	434,414	963,551	23,297	.....	1,040	1,422,302	.....	.....	.....	3,663,658	1944
1945	766,554	951,346	81,019	10,075	.....	102,391	1,911,385	444,649	1,480,175	48,215	.....	.....	1,973,039	.....	.....	.....	3,884,424	1945
1946	123,063	171,698	39,376	10,233	.....	9,050	353,420	602,008	2,073,679	73,125	.....	.....	2,748,812	.....	.....	.....	3,102,232	1946
1947	105,632	.....	.....	.....	.....	229,635	335,267	469,947	.....	.....	.....	906,280	1,376,227	.....	⊕	.....	1,712,494	1947

NOTE:—Figures for 1947 are preliminary totals from official sources. Those for previous years have been corrected from statistics of the California Division of Fish and Game. Full segregation of the various sizes is not available for years prior to 1926 and is estimated for 1947. Figures are given in cases "as they run," without reduction to standard cases. The great majority of the production however, consists of 48-lb. cases.

⊕Segregation of San Diego production not available. Figures are combined with San Pedro district.

seven-man advisory committee, representing all phases of the industry, was being named. So far the governor had appointed I. M. Isaacs of Edible Fish Meals & Oils, and president of the San Francisco Sardine Association to represent Bay area plants; F. J. Leard, Custom House Packing Co., Monterey district plants; John Morris, French Sardine Co., southern California plants; and George Webb, San Pedro boat owners. Three more appointments were to be made.

At a sardine industry meeting in San Francisco, Richard S. Croker, chief, Bureau of Marine Fisheries, Division of Fish and Game, had indicated that one of the controls he favored was an over-all state-wide catch limit of 150,000 tons of sardines for all purposes, including canning and reduction.

For the 1947-48 season the fish and game commission had set a limit of 300,000 tons of sardines for reduction purposes, and as in years past the amount that could be taken for canning purposes was unlimited.

Mr. Croker stated that the Division of Fish and Game had no desire to set up rules to handicap the sardine industry but that it does have a responsibility to the people of the state to see that the sardine industry is a lasting one.

"If nothing is done", said Mr. Croker, "we will have only a small fishery in southern California, of what was once a great industry. However, we still have enough fish so that spawning will build the sardine fishery up.

"The southern California sardine industry is so alarmed over the situation that they are thinking of having the interim session of the legislature, which is supposed to deal largely with fiscal affairs, take action in this emergency."

150,000-Ton Catch Limit Proposed

Mr. Croker then listed a number of steps that might be taken, such as no straight reduction permits to be granted for the coming season; a more restricted closed season; closed areas; size limit on fish taken; limiting the number of plants; limiting the size and number of boats; limiting the size and type of gear to be used.

The speaker pointed out the disadvantages of all these steps, and said that he felt that the most practicable way of protecting what remains of the sardine population was to have a direct limit on the catch

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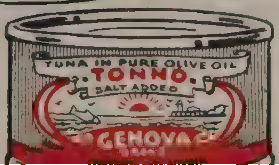

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to be established by the legislature for both cannery and reduction plant operators, and that this catch should be 150,000 tons for the season.

"How would the catch be allocated"? That would be the task of the seven-man advisory committee to work out.

It has been the belief of the Bureau of Marine Fisheries that poor spawning years since 1939, plus intensive fishing have been the primary causes of the failure of the past two seasons.

"The fishery, from 1938-39 through 1944-45 was supported in large measure by the very successful 1939 year class plus additions from older fish spawned beween 1935 and 1939. Younger fish have also been present, but not in large quantities, due to poor spawn survival. The 1939 year-class has now run its course, and Nature has not adequately replaced losses due to fishing activities and natural causes."

Effort Multiplies, Catch Drops

"The expansion of the sardine industry has been rapid", said Mr. Croker. "Following the initial peak of 80,000 tons in 1918-19 there were two slight setbacks, one in the '20s and the other in the '30's, due to economic causes. After the latter, the industry experienced its most rapid growth, and the catch reached an all time high in 1936-37.

"To maintain the total catch level, increased fishing effort has been required in later seasons. This fishing effort can be measured by dividing the total landings by the average lunar-month catch, thus obtaining a measure of the number of boat months required by the entire fleet to produce the total tonnage taken each season .

"The resulting total season boat-months show that fishing intensity increased from 584 boat months in 1932-33 to 1,944 months in 1946-47. The supply of sardines permitted a response in total landings until 1936 37, when a fishing intensity of 1,615 boat months landed 730,000 tons.

"In the next two years effort continued to increase, but total landings fell off. Effort then became relatively stable, and until 1943-44 total catch, total effort and average monthly catch were in comparative equilibrium. Then average monthly catch began to decline, and effort increased. In spite of increased effort, a point was reached where this increased effort could no longer offset declining stock, and total catch fell off until, in 1946-47, 1,944 boat months produced only 230,000 tons of sardines."

Industry Asks Higher Tax To Support Research

Realizing that research and investigation would provide the only answer to the multi-million dollar question, the California sardine industry, in a move thought to be almost unprecedented, worked for legislation to increase its taxes to pay for a research program.

The industry backed legislation for an additional 50c per ton tax on sardines taken. The funds realized from this source are to be administered by a committee which will call upon research organizations in California to use this additional

1936-1947 California Sardine Industry

Catch, Pack, Oil and Meal Yield, by Seasons

	Catch, Tons	Oil, Gallons	Meal, Tons	Case Pack, 1-Lb. Ovals or Equivalent
1936-37 SEASON				
Northern District	139,429	5,509,905	23,686	241,607
Central District	206,229	6,814,184	31,867	1,288,205
Southern District	142,483	1,975,834	19,562	1,459,234
Season Totals	**488,141**	**14,299,923**	**75,115**	**2,989,046**
1937-38 SEASON				
Northern District	132,248	4,659,147	23,058	160,977
Central District	104,464	3,067,587	15,383	828,737
Southern District	109,122	1,448,543	14,540	1,310,715
Season Totals	**345,834**	**9,175,277**	**52,981**	**2,300,429**
1938-39 SEASON				
Northern District	200,361	7,804,909	34,751	224,112
Central District	180,090	5,462,066	28,859	1,063,363
Southern District	148,125	2,235,082	22,603	1,286,301
Season Totals	**528,576**	**15,502,057**	**86,213**	**2,573,776**
1939-40 SEASON				
Northern District	211,471	9,313,706	36,324	286,639
Central District	227,231	7,090,963	34,568	1,763,401
Southern District	93,176	985,323	12,161	1,084,928
Season Totals	**531,878**	**17,389,992**	**83,053**	**3,134,968**
1940-41 SEASON				
Northern District	117,817	4,809,853	20,541	288,413
Central District	165,145	5,197,570	25,805	1,219,846
Southern District	171,747	2,390,887	24,776	1,608,207
Season Totals	**454,709**	**12,398,310**	**71,122**	**3,116,466**
1941-42 SEASON				
Northern District	185,921	7,162,343	29,935	854,709
Central District	249,670	7,222,443	36,304	2,428,980
Southern District	140,071	2,091,232	18,045	1,730,715
Season Totals	**583,463**	**16fi498,965**	**85,103**	**5,155,114**
1942-43 SEASON				
Northern District	115,586	4,467,454	19,114	413,165
Central District	183,158	5,590,335	28,255	1,429,652
Southern District	202,597	3,090,994	29,614	1,862,073
Season Totals	**501,341**	**13,148.783**	**76,983**	**3,704,890**
1943-44 SEASON				
Northern District	126,132	5,018,816	20,064	425,487
Central District	212,383	6,578,416	32,840	1,563,036
Southern District	135,007	2,185,779	20,608	1,161,750
Season Totals	**473,522**	**13,783,011**	**73,512**	**3,150,273**
1944-45 SEASON				
Northern District	136,337	5,616,063	22,258	271,528
Central District	234,613	8,305,401	34,920	887,190
Southern District	177,465	3,781,148	26,795	1,102,662
Season Totals	**548,415**	**17,702,612**	**89,973**	**2,261,380**
1945-46 SEASON				
Northern District	83,483	3,581,808	12,765	456,001
Central District	142,282	4,803,560	20,297	1,220,579
Southern District	170,325	2,846,216	23,481	2,073,963
Season Totals	**396,090**	**11,231,584**	**56,543**	**3,750,543**
1946-47 SEASON				
Northern District	2,846	65,002	519	6,590
Central District	26,818	755,674	3,893	155,329
Southern District	198,052	3,314,193	26,870	1,931,544
Season Total	**227,716**	**4,134,869**	**31,182**	**2,093,463**
OFF-SHORE FLOATING REDUCTION PLANTS (not included above)				
1936-37 Season	239,257	9,034,041	39,876	....
1937-38 Season	74,334	2,479,731	12,389	....
1938-39 Season	57,212	2,021,810	9,535	....

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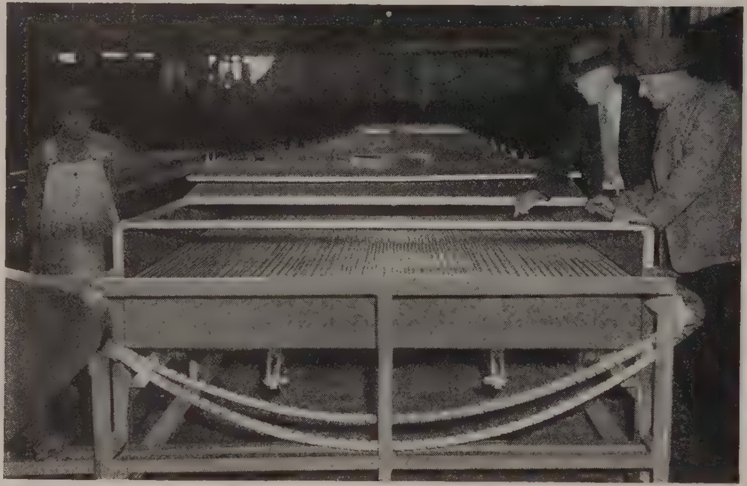

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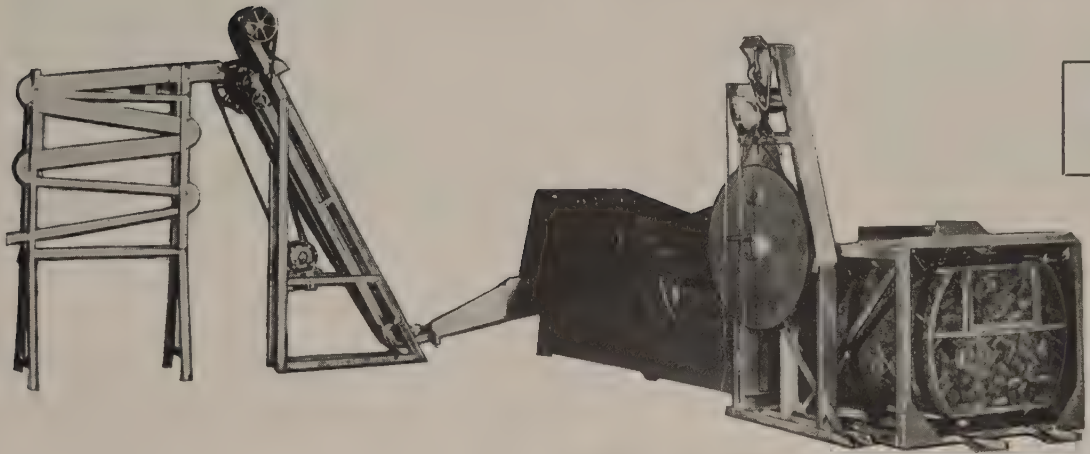

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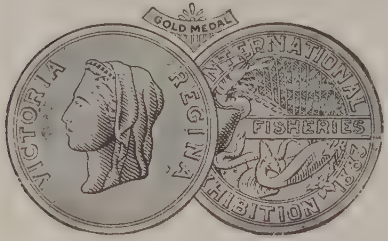

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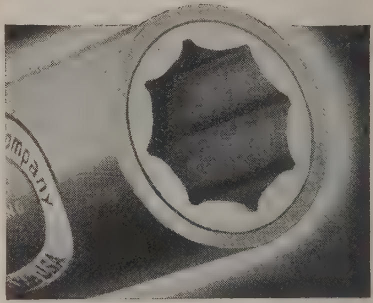

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PACIFIC COAST SARDINE OR PILCHARD CATCH

(EACH SEASON INCLUDES JUNE THROUGH THE FOLLOWING MAY.) *

Season	British Columbia	Washington	Oregon	Total Pacific Northwest	California: Floating Plants	California: San Francisco	California: Monterey	California: San Pedro	California: San Diego	Total California	Grand Total	Calif. Percent of Total
1916–17	...			...	...	...	7,710	17,380	2,440	**27,530**	**27,530**	100
1917–18	80			**80**	...	70	23,810	41,340	7,360	**72,580**	**72,650**	100
1918–19	3,640			**3,640**	...	450	35,750	32,530	6,810	**75,540**	**79,180**	95
1919–20	3,280			**3,280**	...	1,000	43,040	16,580	6,410	**67,030**	**70,310**	95
1920–21	4,400			**4,400**	...	230	24,960	11,740	1,520	**38,450**	**42,850**	90
1921–22	990			**990**	...	80	16,290	19,220	910	**36,500**	**37,490**	97
1922–23	1,020			**1,020**	...	110	29,210	33,170	2,620	**65,110**	**66,130**	98
1923–24	970			**970**	...	190	45,920	35,040	2,780	**83,930**	**84,900**	99
1924–25	1,370			**1,370**	...	560	67,310	96,330	8,820	**173,020**	**174,390**	99
1925–26	15,950			**15,950**	...	560	69,010	61,990	5,710	**137,270**	**153,220**	90
1926–27	48,500			**48,500**	...	3,520	81,860	64,720	2,110	**152,210**	**200,710**	76
1927–28	68,430			**68,430**	...	16,690	98,020	67,900	4,650	**187,260**	**255,690**	73
1928–29	80,510			**80,510**	...	13,520	120,294	119,250	1,420	**254,484**	**334,994**	76
1929–30	86,340			**86,340**	...	21,960	160,050	140,540	2,620	**325,170**	**411,510**	79
1930–31	75,070			**75,070**	10,960	25,970	109,620	38,490	80	**185,120**	**260,190**	71
1931–32	73,600			**73,600**	31,040	21,610	69,030	42,660	260	**164,650**	**238,250**	69
1932–33	44,350			**44,350**	58,790	18,630	89,600	83,600	60	**250,630**	**295,030**	85
1933–34	4,050			**4,050**	67,820	36,340	152,480	125,050	1,750	**383,440**	**387,490**	99
1934–35	43,000	...	...	**43,000**	112,040	69,000	230,860	178,820	4,860	**595,580**	**638,580**	93
1935–36	45,320		26,230	**71,550**	150,830	76,150	184,470	138,400	10,650	**560,500**	**632,050**	89
1936–37	44,450	6,550	14,200	**65,200**	235,610	141,100	206,710	138,110	4,590	**726,120**	**791,320**	92
1937–38	48,080	17,200	16,660	**81,940**	67,580	133,720	104,930	109,950	330	**416,560**	**493,500**	84
1938–39	51,770	26,480	16,990	**95,240**	43,890	201,200	180,990	146,400	2,780	**575,260**	**670,500**	86
1939–40	5,520	17,850	22,330	**45,700**	...	212,450	227,870	101,820	110	**542,250**	**587,950**	92
1940–41	29,660	820	3,200	**33,630**	...	118,090	165,700	175,590	1,200	**460,580**	**494,250**	93
1941–42	60,460	17,090	16,500	**94,050**	...	186,590	250,290	148,910	1,530	**587,370**	**631,420**	86
1942–43	65,880	570	1,880	**68,330**	...	115,880	184,400	201,510	2,870	**504,660**	**572,990**	88
1943–44	83,740	10,540	1,820	**96,100**	...	126,510	213,620	135,310	2,690	**473,130**	**574,230**	83
1944–45	53,380	20	...	**53,400**	...	136,600	237,250	178,290	2,770	**554,910**	**603,310**	91
1945–46	34,300	2,390	90	**36,730**	...	84,100	145,520	173,110	950	**403,630**	**440,450**	92
1946–47	3,990	6,140	3,901	**14,040**	...	2,870	31,240	194,720	4,770	**233,600**	**247,640**	94
*1947	500	1,357	6,925	**8,732**	...	752	20,064	104,118	...	**124,934**	**133,716**	94

These records of catch have been supplied by the Canadian Bureau of Statistics and the Province of British Columbia, the Washington Department of Fisheries, the Fish Commission of Oregon, the California Division of Fish and Game, and for the floater catch by the United States Fish and Wildlife Service.

* Figures in the final line of the table are for the calendar year 1947, and include fish caught in the spring of that year. San Diego landings for 1947 included with San Pedro area.

money to extend their present studies on the sardine.

The California sardine industry also backed legislation to appropriate $300,000 of the state's money to finance deep-sea research by the Scripps Institution of Oceanography. Some time, however, will be required to acquire and outfit the three Navy vessels needed to investigate ocean conditions in the known sardine spawning grounds off southern California and elsewhere along the Pacific Coast.

The research committe of the California Sardine Products Institute, which spearheaded the movement for funds for sardine research is composed of J. G. Burnette, Richmond Fisheries, San Francisco; W. C. Morehead, Pan-American Fisheries Inc., Terminal Island; Don T. Saxby, California Packing Corp., Monterey; and I. M. Isaacs, Edible Fish Meals & Oils, vice-president of the Institute, ex-officio.

At Stanford University the U. S. Fish & Wildlife Service has investigative headquarters which has been doing research work on sardines for a number of years under the direction of O. E. Sette, chief of the service's South Pacific investigations, and director of the agency's sardine program.

Mr. Sette has stated that what researchers need to know is the conditions that exist in the ocean areas where the sardines spawn.

Only this knowledge, Mr. Sette believes, can provide the answer to speculative questions as to whether shrinking catches are the result of over fishing, or whether ocean conditions in spawning areas have changed and are to blame.

With only 7,396 tons of sardines landed in Monterey during the August dark, and none at all in San Francisco, all factors in California's sardine industry were anxiously wondering whether the 1947-48 season would be a repetition of the disastrous 1946-47 season. It proved very shortly to be worse.

Production Figures Show Extent of Failure

As of Dec. 18, 1947, the total California sardine catch was 97,273 tons as compared with 192,026 tons Dec. 19, 1946, and to Dec. 31, 1945, 351,125 tons.

San Francisco had packed to Dec. 18, 1947, a total of 3,924 cases of sardines, as compared to none for the season previous; Monterey had packed 205,915 cases as compared to 218,214 cases the previous year; and southern California had packed 1,008,693 cases as compared to 2,154,818 cases the year before.

The total pack of sardines for California to Dec. 18, 1947, was 1,218,532 cases as compared to 2,373,032 cases for the same period, the year before.

The catch of sardines to Dec. 18 breaks down into San Francisco 291 tons, as against 503 tons; Monterey 13,729 tons as compared to 24,768 tons; and San Pedro 83,253 tons as compared to 166,755 tons.

It had looked as though the southern California season was to be another banner one. To Oct. 15, 46,808 tons of sardines had been delivered. The season opened legally Oct. 1 but actual initial arrivals were Oct. 4. For the same period in 1946 20,719 tons were brailed from the seiner fleet.

In 1947, however, there was a tremendous increase in the sardine fleet as vessels came from ports all the way to Alaska. Comparing the returns per individual vessel, as the southern season got under way, the 46,808 tons came from 1,099 deliveries, or an average of 42 tons per individual fare. In 1946 20,719 tons were from 282 vessels, or an average of 73 tons per fare.

On opening day there were an estimated 325 seiners registered to fish sardines out of Los Angeles harbor. About 250 started out Oct. 3, and 125 came to contract canneries the next morning, fluming 8,662 tons. Following the next week-end lay-off, 158 seiners came in Oct. 6 with a new record tonnage of 8,922 tons.

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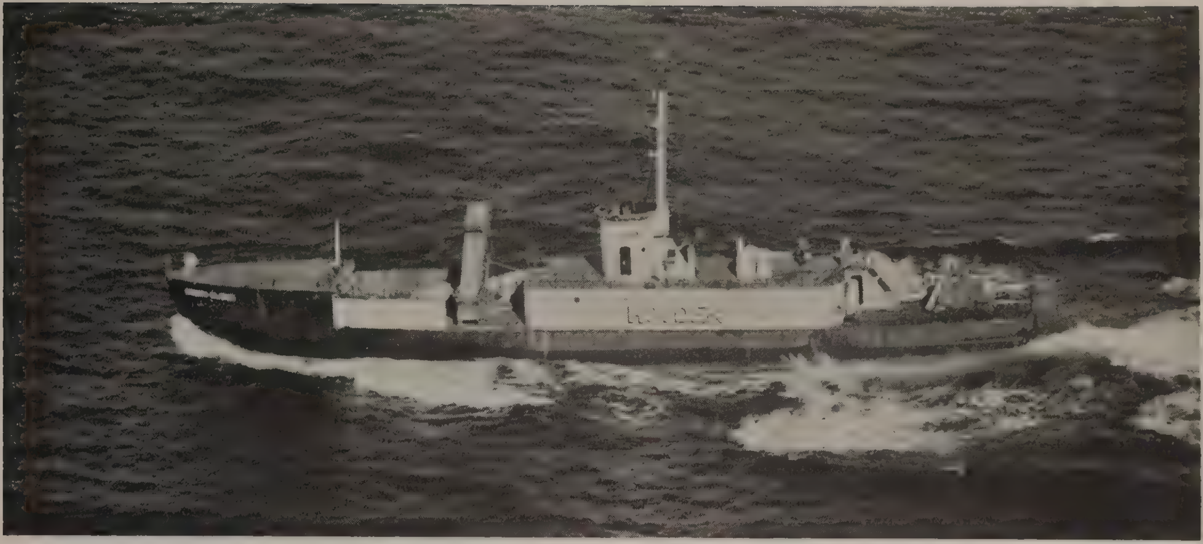

Here is K. Hovden's answer to the dearth of sardines in waters near his Monterey and Moss Landing plants. *Cresta Blanca* is a wartime *LCI*, converted into a high-speed coastwise carrier for transporting sardines from Port Hueneme to Moss Landing. Note the elevating conveyor on the foredeck for discharging the cargo.

California's sardine fleet suffered comparatively little from angry seas during 1947. There were two major losses during the year, one of 82', $125,000 purse seiner *Juanita* which went on the beach near Moss Landing during a fog, and the other the San Francisco purse seiner *Sea Bee*, which capsized six miles south of Santa Barbara.

No one was injured in the wreck of the *Juanita*, owned by Shedo Russo, and skippered by Ratzi Cardinalli, and she was later salvaged. Lost in the *Sea Bee* tragedy was Santo Davigo, well known Monterey fisherman. Antonio Piazza was skipper of the *Sea Bee*.

Sardine Trucking Tried

Inauguration of trucking sardines from southern California to starved plants at Monterey and San Francisco was made early in October. Sardine trucking was innovated in 1946 by the San Carlos Canning Co., Monterey, the idea being said to be that of Sal Ventimiglia, veteran Monterey fisherman, and president of the California Frozen Fish Co., Monterey.

In 1947 sardine trucking started with a load of 30 tons being delivered to Sea Beach Packing Co. On Nov. 11 truck deliveries of sardines to Monterey Cannery Row hit a new peak as unofficial estimates placed total shipments arriving from southern California ports at 1,000 tons in 24 hours. It was thought that more than 70 trucks had arrived during that period.

The fish came from San Pedro, Port Hueneme, and Santa Barbara.

The trucks used for hauling the fish from the south are open tank truck and trailer rigs, normally used to transport grapes from fields to wineries. They pick up the load, up to 20 tons for a truck and trailer, at San Pedro, Santa Barbara, or Port Hueneme, where the fish are thoroughly iced. First a layer of ice is blown on to the bed of the trailer, then the fish are loaded. When the trailer is full, another layer of ice mixed with rock salt is blown over the fish. Finally a tarpaulin is lashed tight over the load. The top layer of ice is renewed at San Luis Obispo.

The fish arrive at Monterey at a temperature of about 30°, and in excellent condition, according to the State Department of Public Health.

By the middle of November most all of Monterey's canneries were receiving fish trucked in from the south. A group of the members of the Monterey Fish Processor's Association had a cooperative trucking and unloading set-up at Port Hueneme. Docking facilities there had been returned by the Navy to civilian use.

S. A. Ferrante, Oxnard Canners Inc., Monterey, who moved his plant from Port Hueneme to Monterey when the Navy took over the port at the outbreak of war, had signed a lease for docking facilities at Port Hueneme, and had installed conveyors there for unloading his fish. Mr. Ferrante was a pioneer in the development of Port Hueneme. Other canners had made unloading arrangements at Santa Barbara and San Pedro.

In San Francisco the J-D Packing Co., James A. Davi, managing partner, was trucking sardines to his plant from the south. To the middle of November some 129 tons of sardines had arrived in excellent condition.

Ocean Carriers Tried

Another way of transporting sardines from southern California waters was inaugruated by Hovden, dean of California sardine canners, and head of Hovden Food Products Corp., Monterey. He purchased four ex-Navy LCIs to transport sardines by water.

It was planned that each of the 158' ships would carry 400 tons of sardines from southern waters to Monterey. The cargoes were to be protected by ice during the 17-hr. run.

The first craft to make the trip was the *Cresta Blanca*, which arrived in Moss Landing with 130 tons of sardines for the Hovden Food Products Corp., but the initial experiment of shipping sardines by water was unsuccessful as far as canning the fish went. They were decided

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to be fit only for reduction by State Department of Health inspectors.

The ship traveled at 12 knots, and despite headwinds made the trip from southern California to Monterey in 19 hours. The sardines were purchased at Port Huneme from two Monterey purse seiners, the *Vivian A.*, and the *Camarello.* Capt. L. F. Bosshardt, well known on the Monterey water front, commanded the *Cresta Blanca* and her crew of eight.

Scouting Efforts Futile

Numerous and continued attemps by northern California operators to locate sardines by air-sea search were made. The Monterey Fish processor's Association chartered an amphibian plane with Pete Constanti as observer. The plane, working in conjunction with the Sun Harbor ship *Sun Rocket* made a number of sweeps, and fish were seen, but not positively identified as sardines. On other trips, schools of sardines were seen and positively identified.

Mills Schaneul, Wilbur-Ellis Co., fish products brokers, arranged a conference between members of the Monterey sardine scouting committee and officers of the 12th District Coast Guard. As a result of this meeting and an appeal to Washington, D. C. Coast Guard headquarters by Mr. Schanuel, a Coast Guard plane was assigned to sardine scouting duties. The plane made a number of flights with George Clemens, Monterey Fish Processor's Association, on board as observer.

During the flights a number of schools of fish were sighted and searching efforts were coordinated with the search ship *Sun Rocket.* However, by that time most of the Monterey fleet had sailed for San Francisco.

Out of San Francisco also search via air was being made for sardines. The Seaplane Fisheries Service of Bay City, Wash., of which J. J. "Curly" Dorsey is manager, made numerous scouting trips over waters normally fished by San Francisco purse seiners.

During a dark the amphibian, with Mr. Dorsey as observer worked with the San Francisco purse seiner *New St. Joseph,* Sam Tarantino, master, and the plane found schools of sardines. However, there were no boats in the area to work the schools.

Southern California packers were assisting fishermen in every way they could to find sardine schools. Mostly this was in the form of air scouting for fish. Both Van Camp Sea Food Co., and French Sardine Co. had airplanes in service at night, communicating with seiners via two-way radio. During the initial dark the California Fish Canners Association chartered a blimp from Howard Hughes for a week of scouting. According to cannery officials air scouting had helped considerably and important tonnage had been netted because of it.

Efforts by the Fishermen's Cooperative Association of San Pedro to obtain permits from the Mexican government for seiners to operate for sardines and mackerel below the international border were hopeful of success.

George R. Webb, manager of the Cooperative, went to Mexico City in late October and proposed to Fisheries Directo Gustavo A. Bravo that American vessels be allowed to seine below the border. Sr. Bravo thought the chances were good for a decision before the season was over.

Southern California's sardine season was really in the doldrums as the third dark proceeded, after being delayed for several days due to a strike by fishermen for a raw-price increase from $45 to $60 per ton, which they succeeded in getting.

Southern Fishing Slackens

From the start of the dark, Dec. 3 to Dec. 13, representing seven days of fishing, only 791 tons were brailed for an average of 113 tons daily. The industry was losing ground rapidly from 1946's comparable tonnage. Through Dec. 10, the 1947 season had yielded 77,139 tons on 508 seiners, whereas the total on the date in 1946 was 144,528, almost twice as much.

One reason for the sharply reduced tonnage was the opening of Port Hueneme, and many seiners, particularly those with northern affiliations were putting in there to unload. A number of canners, with plants located north and south, were using the new facilities.

George V. Castagnola Sea Foods, representing Sun Harbor Packing Co.'s Monterey plant had established conveyors, etc., there, and reported that, during the second dark the concern had unloaded 16,000 tons of sardines and mackerel there.

San Diego re-entered the sardine fishery in 1947 after years of concentrating on tuna. The San Diego Packing Co. during November packed 1,630 cases of 1-lb. ovals in tomato sauce, and was planning to pack sardines.

VALUE OF PRINCIPAL CANNED FISH PRODUCTS 1921-46

YEAR	PACIFIC SALMON			SARDINES		PACIFIC TUNA	PACIFIC MACKEREL	OYSTERS	SHRIMP	CLAMS	CRABS	MISCELLANEOUS FISH PRODUCTS	Grand Total
	PACIFIC COAST STATES	ALASKA	TOTAL	NEW ENGLAND STATES	CALIFORNIA								
	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE	VALUE
1921-25*	$11,060,592	$29,457,922	$40,518,514	$5,781,523	$4,428,409	$5,751,385	....	$2,704,433	$3,928,434	$1,721,051	$71,087	$1,552,481	**$66,457,317**
1926-30*	12,772,490	38,329,082	51,101,572	6,281,996	9,494,787	8,990,774	$979,927	2,344,887	5,022,925	2,517,544	36,729	2,703,368	**89,474,509**
1930-35*	7,301,890	28,513,777	35,815,667	2,974,505	[illegible],519,462	8,646,033	2,117,791	1,392,686	3,836,331	2,242,896	109,235	2,649,056	**64,303,662**
1936	5,309,438	44,751,633	50,061,071	5,740,454	7,302,273	14,715,391	3,542,895	2,180,869	4,672,198	2,976,297	130,753	[illegible],242,053	**94,564,254**
1937	8,386,165	44,547,769	52,933,934	4,998,373	8,592,117	18,995,779	2,673,608	2,932,681	7,130,747	3,013,446	269,699	3,634,551	**105,174,935**
1938	5,728,892	36,636,897	42,365,789	2,367,045	7,102,358	15,183,636	2,896,220	1,886,476	4,872,393	3,189,628	260,134	[illegible],322,210	**83,445,889**
1939	7,339,727	34,441,122	41,780,849	7,075,096	[illegible],553,663	20,079,567	2,588,695	2,378,945	5,397,662	3,798,319	259,756	3,714,998	**96,627,550**
1940	6,575,176	31,474,492	38,049,668	3,736,394	8,975,257	23,727,560	4,101,369	2,526,859	4,318,325	3,778,363	308,890	4,659,256	**94,181,941**
1941	11,199,317	56,217,601	67,416,918	12,475,991	18,091,873	19,397,887	3,503,718	2,997,114	4,882,544	3,711,029	547,617	5,659,466	**138,684,157**
1942	13,673,968	48,300,209	61,974,177	11,691,981	15,509,964	30,742,493	3,693,082	3,598,703	7,347,330	3,791,058	1,755,065	4,893,094	**144,996,947**
1943	5,110,847	57,824,267	62,935,114	10,686,471	14,319,877	31,430,189	5,271,203	2,821,556	5,360,647	2,802,420	1,194,483	4,334,350	**141,156,310**
1944	5,187,136	51,196,140	56,383,276	13,528,541	15,225,919	40,836,117	7,033,997	2,283,429	4,854,799	3,820,612	1,361,458	6,983,036	**152,311,184**
1945	7,942,102	44,644,303	52,586,405	11,520,387	15,346,472	47,407,451	3,590,614	2,029,953	1,918,633	7,391,098	883,767	10,125,791	**152,800,571**
1946	20,105,864	53,534,699	73,640,563	19,548,531	19,895,649	59,135,823	5,598,894	5,249,272	8,428,735	11,145,047	4,458,347	20,265,791	**227,367,682**

* Average.

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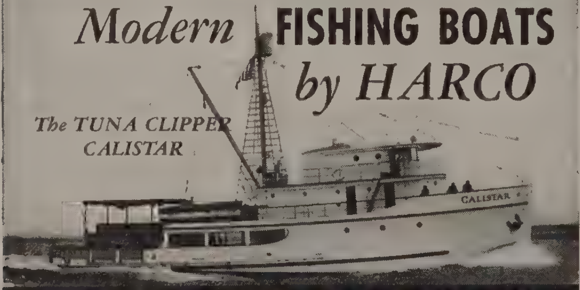

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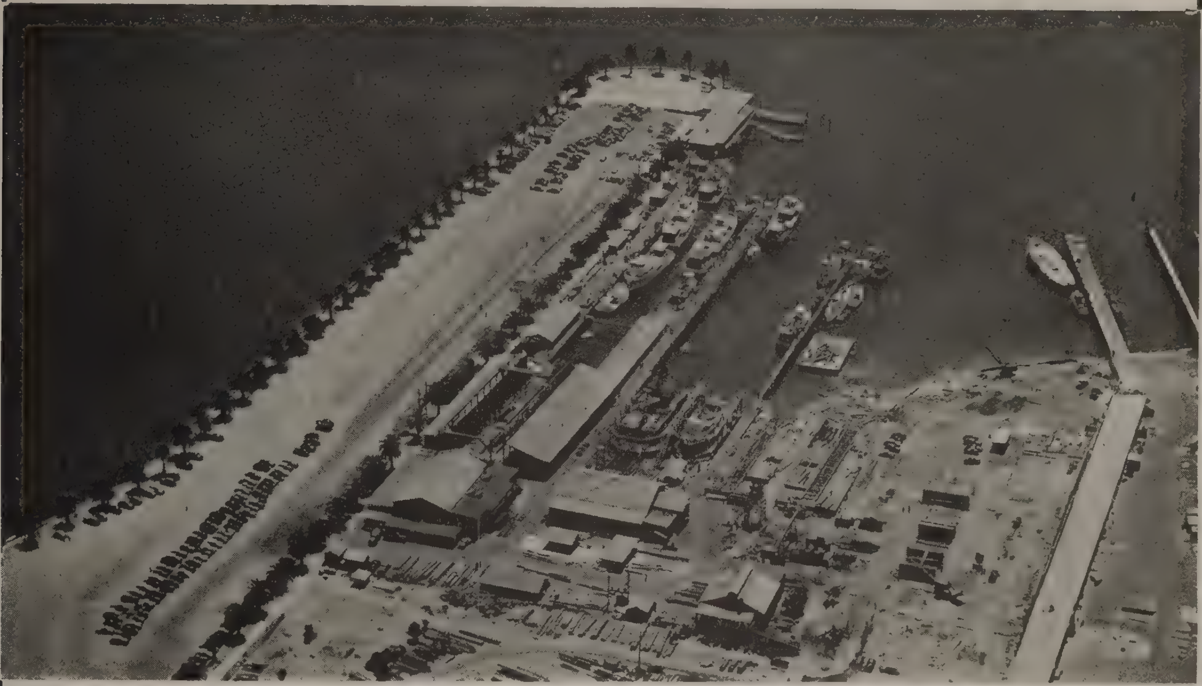

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AMERICAN CANNED FISH VALUES BY AREAS

Year	Pacific Coast						States Other Than Pacific Total	United States Total
	Alaska	California	Oregon	Washington	Total	Percent of Nat'l Total		
1935	$26,072,966	$25,252,965	$ 2,851,987	$ 4,955,117	$59,133,035	78.8	$15,860.684	$74,993,719
1936	45,078,945	26,296,129	2,972,959	3,582,880	77,930,913	82.3	16,726,956	94,657,869
1937	45,041,499	30,741,773	4,163,681	5,276,928	85,223,881	81.2	19.713,750	104,937,631
1938	37,059,151	25,232,688	3,638,815	3,762,575	69,693,229	83.5	13,752,660	83,445,889
1939	34,775,988	31,639.354	4,622,664	5,192,077	76,230,083	79.0	20,228,510	96,458,593
1940	31,836,480	36,949.395	5,294,488	3,987,170	78,067,533	82.9	16,045,513	94,114,046
1941	56,453,007	39,830,950	7,704,434	7,130,960	111,119,351	80.1	27,564,806	138,634,157
1942	48,874,227	44,506,354	12,375,323	8,319,559	114,075,463	78.8	30,567,784	144,643,247
1943	58,479,130	46,842,918	7,242,950	2,975,728	115,540,726	81.8	25,615,584	141,156,310
1944	52,072,335	53.653,337	11,720,608	3,706,586	121,152,866	79.5	31,158,318	152.311,184
1945	45,491,662	60,219,179	12,543,519	7,326,616	125,580,976	82.0	27,219,595	152,800,571
1946	55,081,941	85,196,333	12,163,025	18,202,350	170,643,649	75.0	56,724,033	227,367,682

During November and December packers were having difficulty with most of the fares delivered because sardines and mackerel were mixed together. A great portion of the fish being trucked to Monterey were mackerel. During Nov. 4,106 tons of mackerel were received, and 68,851 cases packed.

The California sardine industry was given something besides the lack of fish to talk about when the Fish and Game Commission placed size limits on sardines, Pacific mackerel, and horse mackerel, effective from Dec. 1 to July 31, 1948. The size limit is 11" on Pacific mackerel, eight inches on horse mackerel, and seven inches on sardines, with a tolerance of 25% by number.

Southern California fishing observers stated that the ruling was impractical and unenforceable. They said that the fish could not be measured unless dumped on decks, where they would die immediately, and that fishermen had no way of telling the size of fish in nets. Some of these observers favored, instead, as a conservation measure, a return to the system of requiring canners to pack at least 13½ cases per ton of sardines received.

On the other hand, Monterey fishing authorities contend that it is possible to "sample" the average size of sardines netted in the purse seine before brailing begins, and that small fish promptly released will survive. An 8½ inch size limit was enforced on a voluntary basis in Monterey for a number of years on sardines.

Price $45-$60 Per Ton

Although the price of $40 per ton had been mentioned in San Francisco as the expected going price for sardines during the 1947-48 season, when the boats finally went out it was for $45 per ton. During the 1946-47 season the price was $30 per ton, but it was reliably reported that some loads were landed for $60 per ton. In Dec. 1947, the price of sardines went to $60 per ton.

The price of sardines has varied from a low of $4 per ton in 1932 to a high of $60 per ton in 1947. The price was $11 per ton from 1926 through 1929. It dropped to $8 in 1930, and 1931, only to go as low as $4 in 1932, rising to $7 in 1933. The following year saw sardines at $7.50 per ton, rising in 1935, and $10 in 1936. The price took a jump in 1937 to $13, yielding $2 of that advance in 1938.

During the 1940-41 season the price was $10.50 per ton, and in 1941-42 it rose to $17 per ton. The price in succeeding seasons rose to $22 per ton, and stayed there throughout the war, and for the 1945-46 season.

Monterey Bay's sardine processing plants canned some 100,000 cases of sardines in 8-oz. flats in a "summer pack" to the end of July, 1947. In July of 1946 there were no sardines nor signs of them. Horse mackerel and squid were also packed during the summer, as well as a considerable amount of tuna, and anchovies.

Plant Cleanliness Emphasized

Compliance with a "cease and desist" order of the California State Board of Health directing fish canners at Los Angeles, Long Beach, Monterey, San Francisco, and Newport Beach to discontinue using any harbor water that might be contaminated has cost fish packers at Los Angeles and Long Beach $800,000 preparing for the 1947-48 season.

Due to a lack of sardines at both Monterey and San Francisco during the past two seasons, preventing study of the problem, solution of the matter at the northern harbors has been delayed.

All plants in the Los Angeles-Long Beach areas have provided new methods of unloading fish. These reduce spillage of bilge and blood, and eliminate its discharge into the harbor. The majority of plants have installed chlorination systems. Two plants, Van Camp Sea Food Co., and Southern California Fish Corp., drilled wells to secure adequate supplies of fresh water.

During the year, the old, well-established Monterey Sardine Industries Inc. (boat owners organization) was dissolved, and Monterey purse seine boat owners formed a new association.

The new group is called the Monterey Purse Seiner Association, and it is headed by Sam Lonero, *Pacific Star;* Sal Colletto, *U.S. Liberator,* vice-president; Frank J. Cardinale, *Santa Lucia,* secretary; and John G. Spadaro, *Lina V. II,* treasurer.

Death took three well known faces from the ranks of fish canners during the year. Mourned were A. T. Williams, French Sardine Co., Terminal Island, and president of the California Sardine Products Institute; Maurice Brenner, before the war for years associated with the Sea Pride Packing Co., Monterey, and during the war with the War Food Administration, and since that time with a fish packing concern in Boston; and M. A. "Mike" Leonis, partner in the Sea Wolf and Lone Wolf Packing companies, and manager of the Santa Inez Fisheries, Moss Landing.

Sun Harbor At Monterey

In one of the largest deals in recent years on Monterey's Cannery Row the Del Mar Canning Co. plants were sold to the Sun Harbor Packing Co. of San Diego.

While no one involved would name the price paid, it was believed to be between $650,000 and $1,000.000.

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Pack of Canned Salmon in Alaska, by Districts -- 1883 to 1947

Year	SOUTHEAST ALASKA							CENTRAL ALASKA							WESTERN ALASKA							Number Plants Operated	Total Cases	Year
	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases			
1883	4	......	......	......	......	......	20,040	2	......	......	......	......	......	28,297	......	......	......	......	......	......	......	6	48,337	1883
1884	4	......	......	......	......	......	22,189	2	......	......	......	......	......	42,297	1	......	......	......	......	......	400	7	64,886	1884
1885	3	......	......	......	......	......	16,728	2	......	......	......	......	......	52,687	1	......	......	......	......	......	14,000	6	83,415	1885
1886	4	......	......	......	......	......	18,660	2	......	......	......	......	......	74,583	3	......	......	......	......	......	48,822	9	142,065	1886
1887	5	......	......	......	......	......	31,462	2	......	......	......	......	......	102,515	3	......	......	......	......	......	72,700	10	206,677	1887
1888	6	......	......	......	......	......	81,128	6	......	......	......	......	......	241,101	4	......	......	......			89,886	16	412,115	1888
1889	12	......	......	......	......	......	141,760	21	......	......	......	......	......	461,451	4	......	......	......	......	......	115,985	37	719,196	1889
1890	12	......	......	......	......	......	142,901	19	......	......	......	......	......	421,300	4	......	......	......	......	......	118,390	35	682,519	1890
1891	11	......	......	......	......	......	156,615	14	......	......	......	......	......	511,367	5	......	......	......	......	......	133,418	30	801,400	1891
1892	7	......	......	......	......	......	115,722	6	......	......	......	......	......	295,496	2	......	......	......	......	......	63,499	15	474,717	1892
1893	8	......	......	......	......	......	136,053	11	......	......	......	......	......	399,815	3	......	..				107,786	22	643,654	1893
1894	7	......	......	......	......	......	142,544	10	......	......	......	......	......	435,052	4	......	......	......	......	......	108,844	21	686,440	1894
1895	7	......	......	......	......	......	148,476	10	......	......	......	......	......	327,919	6	......	...				150,135	23	626,530	1895
1896	9	138,792	91,215	452	28,135	3,787	262,381	12	448,882	20,771	......	8,882	7,455	485,990	8						218,336	29	966,707	1896
1897	9	97,223	140,506	1,396	26,769	5,973	271,867	13	356,428	14,082	......	6,669	5,720	382,899	7	234,930	3,123		10,119	6,140	254,312	29	909 078	1897
1898	9	116,924	89,718	4,622	38,011	2,110	251,385	14	355,857	19,681	85	13,495	5,891	395,009	7	310,160	......	477	3,205	4,861	318,703	30	965,097	1898
1899	9	134,752	138,329	1,000	28,587	7,551	310,219	14	327,708	10,830	......	10,489	7,068	356,095	9	401,794	..	931	326	8,781	411,832	32	1,078,146	1899
1900	16	167,787	217,231	22,061	36,743	12,817	456,639	14	456,604	12,314	132	11,427	11,746	492,223	12	573,015	2,477	7,819	2,814	13,152	599,277	42	1,548,139	1900
1901	21	......	......	......	......	......	735,449	13	......	......	......	......	......	562,142	21	......	......	......	......	......	719,213	55	2,016,804	1901
1902	26	......	......	......	......	......	906,676	12	......	......	......	......	......	583,690	26	......	......	......	......	......	1,046,458	64	2,536,824	1902
1903	21	......	......	......	......	......	642,305	12	......	......	......	......	......	417,175	27	......	......	......	......	......	1,186,730	60	2,246,210	1903
1904	12	......	......	......	......	......	569,003	11	......	......	......	......	......	499,485	32	......		..	..		885,268	55	1,953,756	1904
1905	13	207,375	142,008	37,685	41,079	5,460	433,607	9	345,575	3,235	......	16,518	6,427	371,755	25	1,021,478	23,354	4,287	9,797	30,238	1,089,154	47	1,894,516	1905
1906	20	250,567	326,713	131,405	84,149	2,396	795,230	8	451,659	3,188	......	10,316	7,861	473,024	19	798,504	19,866	123,407	16,278	20,680	978,735	47	2,246,989	1906
1907	22	177,149	542,268	140,392	58,632	1,289	919,730	8	482,968	10,255	......	15,258	14,355	522,836	18	657,687	18,244	44,025	11,784	27,794	759,534	48	2,202,100	1907
1908	23	198,366	592,638	180,204	48,963	2,552	1,022,723	8	377,101	30,661	......	11,543	6,416	425,721	19	1,087,211	20,834	38,309	8,426	14,824	1,169,604	50	2,618,048	1908
1909	19	280,542	455,999	83,001	39,920	857	860,319	8	358,285	5,581	......	10,275	16,913	391,054	18	1,074,667	3,293	37,711	6,361	30,264	1,152,296	45	2,403,669	1909
1910	23	282,265	494,363	231,735	82,620	402	1,091,385	10	364,875	31,797	131	19,928	15,786	432,517	19	825,447	31,348	22,352	11,641	24,087	914,138	52	2,438,777	1910
1911	32	238,895	969,866	290,843	100,793	1,441	1,601,838	11	412,647	24,143	2,008	17,326	15,862	471,986	21	669,163	27,347	10,969	11,585	28,075	747,139	64	2,820,963	1911
1912	51	254,851	1,053,847	589,578	134,914	6,607	2,039,777	14	422,347	136,891	29,591	19,782	14,198	622,809	22	1,227,060	114,247	19,359	15,088	21,789	1,397,543	87	4,060,129	1912
1913	42	190,685	1,299,400	254,689	58,071	1,006	1,803,851	14	364,253	49,299	5,038	13,284	15,393	447,267	23	1,419,381	54,217	7,927	6,022	17,768	1,505,315	79	3,756,433	1913
1914	45	294,842	872,504	597,435	112,163	12,087	1,889,031	14	395,110	195,830	17,693	36,739	11,132	656,504	23	1,511,622	29,489	47,350	8,890	24,946	1,622,297	82	4,167,832	1914
1915	46	229,709	1,820,171	375,260	90,161	25,135	2,540,436	17	500,000	43,951	39,404	26,062	22,978	632,395	23	1,192,248	6,251	69,744	10,347	37,581	1,316,171	86	4,489,002	1915
1916	54	182,075	1,335,291	505,405	182,405	18,482	2,223,658	19	572,096	371,845	64,320	55,298	22,160	1,085,719	27	1,365,271	46,410	145,513	27,481	25,537	1,610,212	100	4,919,589	1916
1917	60	202,951	2,149,075	750,187	152,538	29,657	3,284,408	26	725,925	137,955	86,764	36,065	19,236	1,005,945	29	1,556,005	11,436	40,762	5,105	18,659	1,631,967	113	5,922,320	1917
1918	75	226,108	2,034,997	954,498	152,689	17,248	3,385,540	29	662,829	358,491	313,196	47,904	21,818	1,404,238	30	1,729,622	24,724	98,965	15,979	18,301	1,887,591	134	6,677,369	1918
1919	75	240,208	1,521,897	1,146,943	169,300	30,016	3,108,364	30	437,341	107,924	163,530	54,596	12,075	775,466	28	526,794	27,613	37,989	6,242	109,642	707,280	133	4,591,110	1919
1920	80	199,829	1,026,862	830,538	112,178	32,869	2,202,276	35	533,122	510,350	148,122	67,744	20,417	1,279,755	28	742,829	76,222	44,048	12,389	37,990	913,478	143	4,395,509	1920
1921	30	105,084	416,958	182,272	90,845	9,034	804,193	27	596,200	13,116	28,305	11,425	10,225	659,271	27	1,057,510	10,397	37,029	7,513	29,060	1,141,509	84	2,604,973	1921
1922	57	121,652	1,313,280	425,947	128,023	5,777	1,994,679	36	567,576	331,005	88,321	36,623	8,930	1,032,455	28	1,386,169	13,261	48,228	9,666	16,897	1,474,221	121	4,501,355	1922
1923	67	178,962	2,257,768	434,490	129,990	12,857	3,014,067	39	441,774	197,291	72,821	32,940	11,537	756,363	30	1,257,594	77	19,834	822	14,583	1,292,910	136	5,063,340	1923
1924	65	192,806	1,686,884	799,215	110,002	8,259	2,797,166	38	442,876	892,667	192,901	68,883	10,593	1,607,920	31	814,042	33,517	35,067	2,322	14,889	899,837	134	5,305,923	1924
1925	62	151,140	1,701,849	835,599	94,539	12,493	2,795,611	37	364,721	402,801	199,797	68,267	19,289	1,054,875	30	549,429	590	29,999	1,393	18,992	600,403	129	4,450,898	1925
1926	61	173,891	2,158,699	618,397	96,389	10,679	3,058,055	43	630,505	1,144,180	243,808	104,309	23,683	2,146,485	28	1,352,691	35,470	40,238	1,829	18,114	1,448,342	132	6,652,882	1926
1927	62	115,664	581,728	224,696	114,331	9,131	1,045,823	47	320,159	833,028	253,410	138,243	42,948	1,587,788	29	884,740		29,262	55	18,404	932,461	138	3,566,072	1927
1928	60	106,793	2,137,796	566,689	145,323	5,596	2,962,197	62	431,924	643,816	378,499	152,066	32,567	1,638,872	29	1,405,344	3,852	46,316	497	13,032	1,469,041	151	6,070,110	1928
1929	59	161,580	1,541,463	290,742	97,850	6,982	2,098,617	70	455,997	1,028,790	498,873	68,538	36,526	2,088,544	30	1,075,473	253	71,261	5,862	30,232	1,183,081	159	5,370,242	1929
1930	57	216,743	2,296,270	283,553	155,844	10,894	2,963,304	68	270,310	839,751	281,111	170,741	32,123	1,594,036	27	361,734	14,631	31,336	3,403	20,543	431,647	152	4,988,987	1930
1931	41	148,485	2,038,388	277,225	88,841	14,926	2,567,865	49	439,572	940,124	193,131	81,275	27,567	1,681,669	25	1,107,725	...	66,553	92	8,631	1,183,001	115	5,432,535	1931
1932	31	140,356	1,380,093	582,290	88,293	23,637	2,214,669	34	659,539	720,893	145,660	60,363	32,317	1,618,772	22	1,304,832	15,587	93,178	695	12,755	1,427,047	87	5,260,488	1932
1933	38	81,122	1,477,608	425,869	95,629	8,130	2,088,358	31	486,528	703,696	207,363	64,548	23,792	1,485,927	23	1,614,721	2,139	25,013	1,456	9,084	1,652,413	92	5,226,698	1933
1934	47	104,413	2,622,186	393,904	159,509	15,606	3,295,618	45	707,754	1,198,457	307,649	74,832	27,005	2,315,697	22	1,813,835	1,959	33,502	1,219	8,756	1,859,271	114	7,470,586	1934
1935	46	159,506	2,209,373	541,152	141,501	11,496	3,063,028	44	391,088	1,045,155	302,011	47,198	24,338	1,809,790	9	272,581		9,567	219	641	283,008	99	5,155,826	1935
1936	46	219,531	2,959,774	784,455	136,043	22,105	4,121,908	46	839,243	1,598,585	295,956	80,608	31,820	2,846,212	24	1,423,781	30,911	26,572	1,581	3,983	1,486,828	116	8,454,948	1936
1937	45	165,170	2,138,264	503,235	86,912	30,613	2,924,194	47	459,399	1,480,658	190,425	42,028	31,234	2,209,744	24	1,476,585	376	35,454	138	7,547	1,520,100	116	6,654,038	1937
1938	39	189,880	1,886,104	473,619	140,791	16,339	2,706,733	42	484,518	1,336,000	253,905	75,596	20,146	2,170,165	17	1,848,725		59,335	345	6,241	1,914,646	98	6,791,544	1938
1939	48	195,907	1,474,269	293,316	65,906	2,364	2,031,762	47	657,198	1,034,623	237,148	37,250	21,023	1,987,242	24	1,118,233	627	95,948	...	5,399	1,220,207	119	5,239,211	1939
1940	46	125,462	1,452,037	484,476	155,577	1,539	2,219,091	42	384,266	1,441,266	343,072	126,878	18,359	2,314,475	11	443,653	14,088	32,991	1,675	2,405	494,812	99	5,028,378	1940
1941	47	137,861	3,631,491	321,118	193,751	1,812	4,286,033	44	413,658	1,005,029	333,618	159,023	30,825	1,942,153	19	613,369	129	55,771	3,439	5,609	678,317	105	6,906,503	1941
1942	47	121,083	1,758,741	597,373	189,210	2,033	2,668,779	44	352,475	1,051,359	328,860	180,698	34,916	1,948,308	7	438,111	8,550	16,556	2,629	6,178	472,024	98	5,089,109	1942
1943	34	85,313	1,042,610	672,359	92,245	1,868	1,894,395	34	582,287	1,277,915	167,809	66,311	37,421	2,131,743	14	1,314,575	1,532	42,410	178	11,676	1,370,371	81	5,396,509	1943
1944	38	131,580	1,081,334	655,188	88,380	1,765	1,958,247	45	461,718	1,002,056	286,498	96,255	29,718	1,876,245	13	987,459	3,932	44,039	2,418	5,456	1,043,304	94	4,877,796	1944
1945	41	129,514	1,039,521	265,845	107,425	2,582	1,544,887	43	434,872	1,198,665	331,654	85,506	30,041	2,080,738	8	609,132	1,623	92,551	3,103	9,086	715,495	92	4,341,120	1945
1946	41	59,029	999,443	321,037	94,074	1,612	1,475,195	48	350,728	1,053,605	257,909	96,301	25,356	1,783,899	20	656,141	4,073	38,209	2,686	10,906	712,015	108	3,971,109	1946
1947	40	56,032	680,693	260,666	72,434	4,019	1,073,844	47	470,056	1,034,475	196,731	74,388	74,388	1,810,430	21	1,350,151	8,449	42,814	1,893	14,885	1,418,192	107	4,302,466	1947
Avg.	..	**134,078**	**1,650,381**	**458,757**	**121,427**	**6,253**	**2,370,932**	...	**458,112**	**1,188,118**	**273,090**	**96,585**	**27,904**	**2,044,471**	...	**950,598**	**3,493**	**51,326**	**1,661**	**7,050**	**1,014,129**	..	**5,429,532**	**Avg.**

NOTE:—Figures for the various species in each district not available prior to 1896, nor from 1901 to 1904, inclusive. District totals for years prior to 1883 may be found in issues of the YEARBOOK prior to 1943.
"Average" is for ten years prior to 1947.

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Columbia River Canned Salmon Pack, 1888 -- 1947

Salmon canning on the Columbia River commenced in 1866, with a pack of about 4,000 cases valued at $64,000; but no segregation by species is available prior to 1889. Production increased rapidly to a peak of 629,400 cases in 1883, valued at $3,147,000; then fell to 356,000, valued at $2,124,000, in 1887: the average output for intervening years being 351,091 cases, valued at $2,066,227. The "average" figures at bottom of table are for ten years prior to 1947.

Year	Number of Canneries	Chinook		Blueback		Silverside		Chum or Keta		Steelhead Trout		Total		Year
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888....	28	....	....	....	....	....	....	....	....	....	....	372,477	$2,234,862	1888
1889....	21	266,697	$1,600,182	17,797	$101,051	....	....	....	....	25,391	$108,587	309,885	1,809,820	1889
1890....	21	335,604	1,946,087	57,345	290,069	....	....	....	....	42,825	171,300	435,774	2,407,456	1890
1891....	22	353,907	2,038,566	15,482	284,242	....	....	....	....	29,564	118,156	398,953	2,440,964	1891
1892....	24	344,267	1,996,388	66,547	372,909	4,176	$20,880	....	....	72,348	288,892	487,338	2,679,069	1892
1893....	24	288,773	1,559,374	30,459	152,295	29,107	116,428	2,311	$6,933	65,226	260,904	415,876	2,095,934	.. 1893
1894....	24	351,106	1,896,976	43,814	224,430	42,758	171,032	....	....	52,422	209,688	490,100	2,501,126	. .1894
1895....	24	444,909	2,428,658	18,015	86,523	99,601	329,683	22,493	62,591	49,678	203,542	634,696	3,110,997	. .1895
1896....	24	370,943	1,804,511	16,983	81,518	44,108	141,145	....	....	49,663	198,652	481,697	2,261,826	. .1896
1897....	22	432,753	1,804,221	12,972	51,888	60,850	197,762	....	....	46,146	165,440	552,721	2,219,311	...1897
1898....	23	329,566	1,490,394	66,670	300,015	65,431	222,465	....	....	26,277	60,352	487,933	2,073,226	. 1898
1899 ...	17	255,824	1,458,175	23,969	134,723	29,608	112,055	11,379	33,836	11,994	39,186	332,774	1,777,975	. .1899
1900....	16	262,392	1,821,258	13,162	92,184	44,925	202,163	17,696	63,706	20,597	102,985	358,772	2,282,296	...1900
1901....	..	....	....	....	....	....	....	....	....	....	....	390,183	1,942,660	...1901
1902....	14	270,580	1,428,743	17,037	86,465	10,532	44,732	10,401	41,604	8,593	42,965	317,143	1,644,509	...1902
1903 ...	16	301,762	1,610,614	8,383	42,867	12,181	49,869	10,000	37,500	7,251	36,255	339,577	1,777,105	...1903
1904....	20	320,378	1,944,690	12,911	78,048	31,254	118,357	20,693	52,691	9,868	48,892	395,104	2,242,678	. .1904
1905....	19	327,106	1,962,636	7,768	46,608	26,826	114,011	25,751	65,206	9,822	49,110	397,273	2,237,571	...1905
1906....	19	311,334	1,868,007	7,816	54,712	41,446	124,338	27,802	69,505	6,500	32,500	394,898	2,149,062	. .1906
1907 ...	19	258,433	....	5,504	....	31,757	....	22,556	....	5,921	....	324,171	1,763,490	1907
1908 ...	14	210,096	....	8,581	....	31,432	....	16,884	....	10,726	....	253,341	1,380,708	1908
1909....	15	162,131	1,203,546	27,908	214,561	42,178	185,070	24,542	57,115	17,283	99,796	274,087	1,760,088	.. .1909
1910....	15	244,285	1,882,137	6,234	34,287	68,922	363,688	66,538	232,883	5,436	31,203	391,415	2,544,198	.. .1910
1911 ...	15	405,862	2,204,185	5,988	47,904	79,416	549,478	53,471	203,198	8,594	47,399	543,331	3,052,164	. 1911
1912 ...	15	220,317	1,988,526	8,210	85,384	31,842	177,248	18,699	46,590	6,958	22,108	285,666	2,319,856	. .1912
1913 ..	15	192,116	1,664,670	11,152	93,677	40,969	175,412	13,303	29,486	8,939	49,142	266,479	2,012,387	...1913
1914 ...	17	289,464	2,573,502	35,311	376,924	69,769	380,666	49,285	205,541	10,792	59,356	454,621	3,595,989	1914
1915	19	406,486	3,694,361	5,459	56,707	33,336	173,234	86,530	251,632	26,723	129,358	558,534	4,305,292	...1915
1916 .	20	395,166	3,572,203	3,790	27,288	52,084	335,114	77,766	307,483	18,999	118,987	547,805	4,361,075	. .1916
1917	20	403,637	5,023,529	7,968	111,552	64,299	700,680	53,659	386,596	23,783	292,538	555,218	6,530,939	...1917
1918 .	20	400,952	5,222,983	37,833	605,328	98,145	1,072,843	29,846	215,669	24,605	350,071	591,381	7,466,924	. .1918
1919 .	21	392,125	5,455,550	7,268	145,360	90,728	1,142,767	75,493	541,989	14,414	205,254	580,028	7,490,920	. .1919
1920	22	420,467	5,661,580	2,617	62,808	27,024	257,806	18,792	99,564	12,645	116,859	481,545	6,198,617	...1920
1921	20	267,582	3,761,321	6,045	120,900	34,381	233,372	4,821	19,791	10,142	68,266	323,241	4,203,649	...1921
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,935	8,844	47,130	24,920	186,675	392,174	5,206,993	...1922
1923	23	289,586	4,967,657	38,309	766,180	101,554	673,954	25,508	135,168	25,968	187,965	480,925	6,730,924	...1923
1924 .	22	293,716	4,508,236	7,366	129,840	112,308	992,865	57,748	303,356	29,734	285,107	500,872	6,219,404	...1924
1925	21	350,809	5,423,129	5,650	106,220	113,554	1,488,855	55,812	272,398	14,637	177,866	540,452	7,468,468	...1925
1926	21	295,302	4,744,131	21,736	434,720	97,142	1,027,597	32,853	181,216	32,690	356,418	479,723	6,744,064	.1926
1927 .	22	339,446	5,559,202	6,887	147,378	74,879	585,816	68,449	425,240	30,148	311,070	519,809	7,028,705	. .1927
1928 .	24	251,404	4,355,218	4,814	100,131	49,136	478,355	124,953	747,619	16,339	222,139	446,646	5,903,462	. .1928
1929	21	242,938	4,234,214	10,072	181,296	90,684	917,561	54,619	314,928	23,804	257,025	422,117	5,905,024	. .1929
1930...	21	281,346	4,092,810	9,823	194,460	110,430	1,156,042	11,371	43,324	16,535	171,541	429,505	5,658,177	...1930
1931	20	294,798	3,754,929	4,125	66,000	39,268	247,878	3,518	11,754	11,990	110,429	353,699	4,191,000	...1931
1932	15	216,511	2,023,390	2,795	33,540	46,492	280,853	17,261	44,879	13,132	91,924	296,191	2,474,586	. .1932
1933	14	251,157	2,719,303	6,921	96,894	36,430	263,190	24,398	107,351	17,805	142,440	336,711	3,329,178	. .1933
1934	13	251,068	2,630,152	6,869	82,428	65,428	536,731	24,455	92,608	14,901	121,000	362,721	3,462,919	. .1934
1935	10	205,870	2,479,450	1,302	17,619	95,184	725,868	15,495	59,499	14,888	122,846	332,739	3,405,282	.1935
1936	11	220,188	2,964,058	9,837	137,718	36,541	303,263	30,597	110,149	19,282	317,867	316,445	3,833,055	. .1936
1937	11	291,343	4,256,819	7,526	126,436	69,801	725,996	30,592	138,309	17,568	189,734	416,830	5,437,294	. .1937
1938 .	10	173,892	2,707,267	13,889	260,369	67,257	630,364	37,704	143,275	15,248	152,480	307,990	3,893,755	. .1938
1939 .	10	207,595	3,336,206	5,301	102,359	69,082	730,549	15,201	75,416	25,293	320,025	322,472	4,666,141	. .1939
1940 ..	11	244,570	3,785,681	23,974	471,530	59,737	623,681	25,282	125,420	33,436	373,514	386,999	5,379,826	. ..1940
1941	11	328,609	5,558,254	33,070	661,400	35,727	481,834	83,144	572,994	33,162	453,502	513,712	7,727,984	. 1941
1942 .	12	274,750	5,692,929	23,256	625,230	26,541	497,070	118,051	911,538	21,803	429,678	464,401	8,156,445	...1942
1943	11	130,373	3,094,505	2,880	77,586	5,707	61,065	12,439	112,421	16,261	323,874	167,660	3,669,451	. 1943
1944...	10	163,047	3,714,591	758	20,342	12,210	137,072	1,525	11,590	19,222	375,838	196,762	4,259,433	1944
1945 .	8	132,014	3,095,228	112	3,001	22,154	244,060	1,032	8,848	19,314	363,068	*175,670	3,723,456	1945
1946..	11	159,872	5,940,740	9,726	369,588	6,883	206,490	†15,617	247,392	17,373	510,720	†209,471	7,274,930	1946
1947..	10	250,318	8,613,000	15,079	664,000	42,789	1,278,000	17,121	252,000	21,999	650,000	347,306	11,457,000	1947
Avg....	....	**210,606**	**4,118,222**	**12,049**	**271,784**	**37,510**	**433,818**	**34,059**	**234,720**	**21,868**	**349,243**	**316,197**	**5,418,872**	**...Avg.**

*Includes 1,044 cases of Pinks canned from Puget Sound fish.

†Includes 1,873 cases of Pinks canned from Puget Sound fish.

North American Canned Salmon Pack, 1917 to 1947

Year	Red, Sockeye or Blueback	Pink	Chum or Keta	Medium Red Coho or Silverside	King or Chinook	Steelhead Trout	Total Cases	Year
1917............	3,248,843	3,929,332	1,648,313	588,749	673,980	35,677	10,124,894	1917
1918............	2,987,710	2,953,245	2,175,031	838,088	697,140	41,086	9,692,300	1918
1919............	1,707,846	2,426,414	2,367,481	793,175	704,195	24,392	8,023,503	1919
1920............	1,892,691	2,138,959	1,175,001	361,566	705,050	16,054	6,289,321	1920
1921............	2,034,310	1,038,090	359,947	362,943	419,508	11,362	4,226,160	1921
1922............	2,480,811	2,241,760	908,283	510,919	353,588	26,640	6,522,001	1922
1923............	2,309,142	3,371,917	1,120,591	534,225	389,802	27,757	7,753,434	1923
1924............	1,902,832	3,295,739	1,835,251	542,682	406,096	31,270	7,990,543	1924
1925............	1,581,792	3,111,320	1,803,371	667,817	550,071	17,248	7,731,610	1925
1926............	2,550,771	4,101,422	1,762,134	607,778	485,783	86,233	9,544,126	1926
1927............	1,738,054	2,241,304	1,217,338	642,522	538,574	33,377	6,411,169	1927
1928............	2,214,498	3,583,433	2,165,652	602,203	354,798	17,492	8,938,076	1928
1929............	2,100,787	3,775,764	1,541,213	564,826	375,497	24,821	8,382,908	1929
1930............	1,710,018	4,266,301	1,085,351	758,451	427,282	18,509	8,265,912	1930
1931............	2,084,385	3,890,755	671,574	388,140	418,483	13,679	7,467,016	1931
1932............	2,484,459	2,341,966	1,313,537	446,706	394,830	14,386	6,995,884	1932
1933............	2,579,891	3,259,341	1,021,547	402,107	343,442	19,486	7,625,814	1933
1934............	3,354,863	4,261,262	1,362,905	596,951	352,752	16,183	9,944,916	1934
1935............	1,232,852	4,139,114	1,303,216	596,117	279,693	15,484	7,566,476	1935
1936............	2,968,184	5,181,954	1,846,675	533,285	313,795	20,350	10,864,243	1936
1937............	2,494,302	4,532,487	1,233,999	369,916	385,986	18,412	9,035,372	1937
1938............	3,125,176	3,623,435	1,387,245	595,380	234,520	16,283	8,982,039	1938
1939............	2,280,088	3,412,392	1,054,858	472,239	254,930	26,090	7,500,597	1939
1940............	1,402,999	3,124,292	1,553,389	592,395	286,485	34,443	6,994,003	1940
1941............	1,763,852	5,218,427	1,770,225	831,279	422,989	36,597	10,043,369	1941
1942............	1,860,044	3,088,724	1,723,193	616,687	343,369	26,507	7,658,524	1942
1943............	2,169,091	2,913,760	1,258,239	377,160	196,000	19,357	6,933,608	1943
1944..	1,869,365	2,478,750	1,239,548	383,040	223,088	23,143	6,216,934	1944
1945............	1,556,200	3,374,192	1,041,387	457,680	194,056	22,125	6,645,640	1945
1946............	1,893,469	2,176,817	1,267,478	316,968	230,811	21,880	5,907,423	1946
1947............	2,197,569	2,962,281	1,127,496	438,087	366,620	25,325	7,117,378	1947
Ten Year Avg.	**2,041,459**	**3,394,328**	**1,352,956**	**501,274**	**277,223**	**24,484**	**7,591,751**	**Ten Year Avg.**

Average figures are for ten years prior to 1947. Statistics for earlier years will be found in previous numbers of the YEARBOOK.

E. E. MURRAY
Vice President, Bristol Bay Packing Co.
President, Alaska Salmon Industry, Inc.
Seattle

ALAN S. DAVIS
President, Hawaiian Tuna Packers, Ltd.
Honolulu

CRAB

Crab canning attained its all-time high on the American Pacific Coast in 1947 with a pack of 108,674 cases, marketed at an average of about $20 per case.

Credit for the large pack, and for the excellent earnings which it made possible, must be attributed to the realistic willingness of the fishermen to take less money per dozen for their crabs — reflecting the lower market value of the canned article.

Washington crab canning came to the fore with a rush in 1947, when that state packed more than half of the Pacific Coast production, and actually more than twice as much as the state had ever before produced.

The Washington pack for 1947 was 56,048 cases, as compared with 32,358 cases in Oregon.

Alaska canning declined somewhat, due in large degree to the growing tendency to ship frozen crabmeat packed in tins from the territory by air at times when the Pacific Coast states were not adequately supplied by their local fisheries.

Crab canning in California was believed to be handicapped somewhat by the state requirements with respect to retort processing time—requirements which the packers considered excessive and affecting the quality of the pack adversely.

Crab fishing started in 1947 with a price of 12c per lb. ruling when deliveries became of any volume. On the Oregon coast this figure dipped in February to 10c per lb., and at this figure the Washington crabbers did not fish for a time. They accepted it late in February, however, and by the end of the first week in March heavy landings carried the price down to 8c per lb., where it hung for most of the season at the points where production was heaviest. At that time Eureka price was still as high as 12c, but with crabs scarce and light.

April saw fishermen along the Oregon and Washington coasts recognizing that the crab population was heavy and landings the largest in years.

Crescent City, Calif., buyers dropped their price to 8c early in May, although the Eureka buyers were still paying 10c, having the advantage of close contact with the San Francisco market.

In early June deliveries of crabs

1947—PACIFIC CANNED CRAB—1947

Company	Cannery Location	Cases 48-½-Lb. Flat Except as Noted
Alaska		
Cordova Packing Co.	Cordova	1,353
Kayler-Dahl Fish Co.	Petersburg	1,838
North Pacific Packing Co.	Cordova	600
Ocean-Fresh Seafoods Co.	Cordova	550
H. M. Parks Co.	Cordova	(a)5,599
Smith & Morrow	Sitka	184
Total Alaska		10,124
Washington		
Aberdeen Seafoods, Inc.	Aberdeen	1,200
Burk Packing Co., P. J.	Bellingham	141
Crown Packers	Hoquiam	3,972
Embree Packing Co.	Westport	200
Deep Sea Products Co.	Aberdeen	3,994
Dungeness Crab, Inc.	Westport	9,862
Haines Oyster Co.	Bay Center	3,276
Kaakinen Sea Foods Co.	Westport	3,095
Nelson Crab & Oyster Co.	Tokeland	6,000
South Bend Oyster Co.	South Bend	14,455
Tokeland Crab & Fish Co.	Tokeland	2,388
West Coast Fish Co., Inc.	Aberdeen	3,112
Whiz Fish Products	Hoquiam	4,353
Total Washington		56,048
Oregon		
Columbia River Packers Association	Astoria	20,808
Del Mar Canning Co.	Warrenton	(b)30
Hallmark Fisheries	Charleston	168
New England Fish Co.	Newport	264
Paragon Packing Co.	Astoria and Portland	1,713
Point Adams Packing Co.	Hammond	9,375
Total Oregon		32,358
California		
Hallmark Fisheries	Eureka	3,989
Lazio Fish Co., Tom	Eureka	550
Princeton Packers	Half Moon Bay	1,080
Total California		5,619
GRAND TOTAL		108,674

(a) Includes 1,993 cases of 5-lb. cans, 6 to the case.
(b) Consists of 5-lb. cans, 6 to the case

NO. 1

User Reports Prove FATHOMETER* Helps Fishermen Catch More Fish

Monterey, Cal. †

"Fathometer sounded fish in broad daylight. We stopped and waited for nightfall on the school. Caught seventy ton of sardines."

Boston, Mass. †

"I've saved from two to three hours each day and gained an extra set since I've had a Fathometer."

Terminal Island, Cal. †

"During the last dark we made a set and brought in forty-five tons of sardines without seeing the school surface. We sized up the school by running back and forth over it getting a good flash at 10 fathoms in 70 fathoms of water."

Here is proof . . . tangible evidence as found in the excerpts taken from user reports . . . that Fathometer enables fishermen to get larger hauls and make faster trips. But that's not the complete story, for in addition to catching fish, Fathometer helps in safe navigation, too. By following the contour of the sea bottom, it warns of reefs, shallows and other underwater obstacles . . . enables the skipper to bring the ship back to port even in fog and darkness. Whether you fish inland waters, off shore or deep waters, Fathometer will help you find the fishing grounds, catch more fish, get to port faster and earn higher profits. Write for the complete facts today.

† Name on request *Reg. U. S. Pat. Off.

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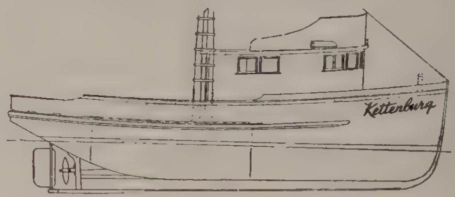

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on Willapa Harbor became so heavy that buyers at Bay Center were obliged to limit boats to 150 doz. crabs per delivery. This condition was relaxed shortly. The heaviest single delivery reported at Bay Center was 453 doz. by Capt. Hon Horne. The *Ethel G.* was reported to have delivered 1,000 doz. crabs at Newport, Ore., about this time, and Columbia River deliveries in early June were averaging 250 doz.

Extraordinarily heavy deliveries of crabs continued on the Washington coast pretty well through the summer. Fishing held-up well much later than usual, and Westport landings reached their all-time high.

Packers and fishermen found some slight disagreement over price for the early 1948 season, but by the first of the year had reached an understanding on the basis of $2.50 per doz., ocean run, at Westport, Wash.

Some disturbance of the crab business was occasioned in 1948 when the Food and Drug Administration insisted that all crab canned in half-pound tins must have a cut-out drained weight of 6½ oz., regardless of the weight declaration on the label. This required placing a larger quantity of crab in the tins, and afforded some technical difficulties in getting the larger quantity of crab into the cans without loss of quality.

Crab canning started early in 1948, Columbia River canneries being in active operation on crabs before the end of January. This domestic activity was in spite of the effect of substantial shipments of Japanese and Russian crab arriving from the Orient.

Pacific Canned Crab—1931 to 1947

(Shown in Standard Cases of 48 Half-pound Cans)

Year	Alaska	Washington	Oregon	California	Total	Value
1947	10,124	56,048	32,358	5,619	**108,674**	$2,173,480
1946	15,792	19,263	29,106	15,195	**79,356**	2,221,968
1945	15,760	9,070	896	....	**25,726**	398,898
1944	13,376	16,524	10,968	....	**40,868**	653,888
1943	9,386	18,332	20,874	....	**48,592**	782,173
1942	7,766	26,052	45,338	....	**79,156**	1,266,496
1941	11,126	13,232	13,346	....	**37,704**	311,822
1940	12,828	8,634	3,792	....	**25,254**	178,021
1939	11,978	2,716	8,406	....	**23,100**	184,254
1938	....	....	....	....	**27,016**	258,375
1937	....	....	....	....	**27,394**	269,699
1936	....	....	....	....	**14,758**	124,925
1935	....	....	....	....	**13,840**	106,832
1934	....	....	....	....	**22,869**	184,052
1933	....	....	....	....	**17,564**	134,330
1932	....	....	....	....	**9,314**	73,112
1931	....	....	....	....	**263**	2,104

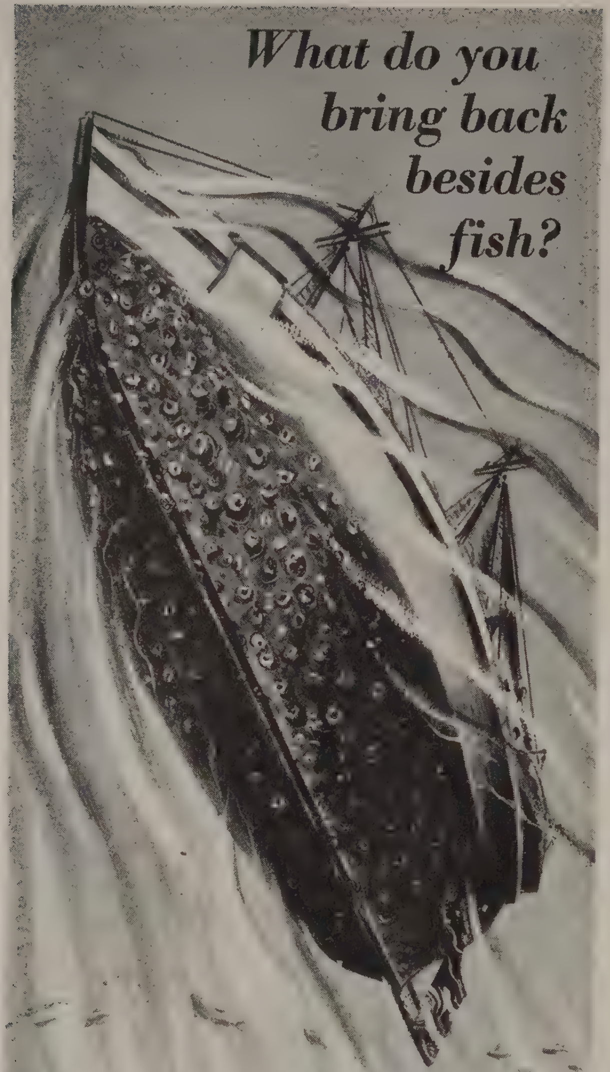
1946-47 Oregon Shellfish Deliveries

CRABS		Months	CLAMS	
1946 Dozen	1947 Dozen		1946 Pounds	1947 Pounds
17,065	22,660	January	12,150	26,936
21,815	27,457	February	30,471	33,572
30,732	40,555	March	61,310	47,126
34,074	46,527	April	33,600	31,537
80,626	78,649	May	44,313	58,325
34,414	50,317	June	67,755	38,980
13,694	20,806	July	41,399	66,384
5,783	7,188	August	31,983	33,868
4,568	3,813	September	21,130	13,353
8,859	*	October	8,883	*
12,834	*	November	18,237	*
14,814	*	December	12,519	*
279,278	**297,972**	**Totals**	**383,750**	**350,081**
243,026		1945 Totals	361,139	
266,428		1944 Totals	179,273	

* Data not available.

1947—Shellfish Receipts by Seattle Wholesale Dealers—1947

Shellfish	Unit	Dec. 1946	Jan. 1947	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	**TOTAL**
		Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	**Number**
Clams, butter, in shell	Bxs.													
Clams, butter, in shell	Sks.	251	91	157	34	5						23	75	**636**
Clams, butter (meats)	Gals.	4												**4**
Clams, Little Neck, in shell	Bxs													
Clams, Little Neck, in shell	Sks.	711	618	799	812	172						510	798	**4,420**
Clams, (meats)	Gals.			13	4			2,778	100					**2,895**
Clams and Clammeat, Import	Lbs.					30,735	75,609	81,951	75,285	86,475	93,560	41,680	7,500	**492,795**
Clams, Razor, in shell	Lbs				1,647									**1,647**
Crabs, Dungeness	Doz	1,824	1,763	3,894	4,412	3,107	3,795	3,029	364	415	58	1,971	3,280	**27,912**
Crabs and Crabmeat, Import	Lbs		2,236	924				2,781	6,839	1,880	11,390	19,197	12,267	**57,514**
Crabmeat, fresh cooked	Lbs.	2,392	2,140	1,753	3,772	8,237	4,918	2,155	3,650	4,095	115	754	4,497	**38,478**
Crabs and Crabmeat, frozen	Lbs.		28,075	21,600					565		26,910	47,100	19,880	**144,130**
Lobsters	Lbs	1,335		300	5,912		3,700	1,584	14,650	9,400	19,600	1,225	1,439	**59,145**
Lobster tails	Lbs				1,100									**1,100**
Octopus, round	Lbs	7,221	5,103	5,624	5,357	5,772	528	1,254	695		108	160	1,358	**33,180**
Oysters, shucked:														
Eastern	Gals.	2	80	70	40	60			5	43	55	61	44	**460**
Olympia	Gals	181	144	168	172	200	162	111	6	29	38	239	366	**1,816**
Pacific	Gals.	14,289	16,988	15,388	16,398	11,310	8,935	7,740	8,679	8,024	12,152	24,119	30,017	**174,039**
Scallops, Bay	Gals.	103	117	242	146	144	141	62	120	231	195		135	**1,636**
Scallops, frozen	Gals.					800								**800**
Shrimp, Local	Lbs	5,130			58	2,766	1,653	2,056	100		700		10,231	**22,694**
Shrimp, Gulf	Lbs			2,100				3,000	3,650		15,040	25,250	16,750	**65 790**
Shrimp, frozen	Lbs		32,180					9,000	16,800				2,000	**59 980**
Shrimp meat	Lbs			240	15,335	28,114	40,960	26,020	49,041	15,920	23,070	48,548	62,596	**309 844**
Squid, Local, Round		55					84							**139**
Squid, Calif., Round	Lbs.		5,000						500	500				**6,000**
Miscellaneous Shellfish	Lbs.		1,095	3,220	2,077	1,600		690	210	1,565				**10,457**



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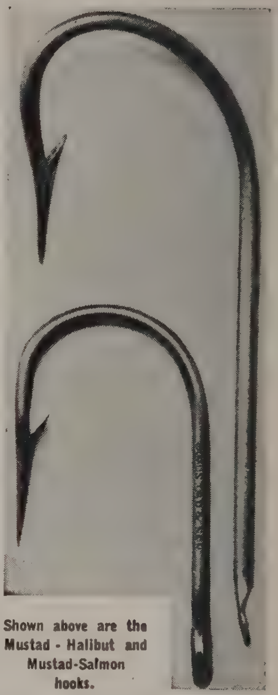

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OYSTERS

Reduced stocks of mature Pacific oysters in 1947 held production close to the pattern of the previous season.

Markets for both canned and fresh oysters were strong and active at excellent prices.

Heavy planting of imported seed oysters in the spring of 1947 was supplemented the following summer by an excellent natural set, assuring an abundant supply of Pacific oysters for some years in the future.

Olympia oyster seeding of 1947 was phenomenal.

Pacific oystermen maintained in 1947 the relatively restricted production of the previous season, but only by dint of the closest utilization of all mature oysters.

The population of marketable oysters had reached a definitely low level, following the suspension of seed imports during the war years and the failure of domestic spawning to provide any good seeding during that critical period.

Singularly, the production of both canned and fresh shucked oysters during the 1946-47 season was almost identical with that of the previous season.

The 1946-47 pack of canned oysters is shown in the accompanying table as 88,170 cases, as against 89,050 cases in the previous period; while fresh oysters were shucked in 1946-47 to the extent of 589,493 bushels, compared with 589,749 bushels the season before.

Ruling Handicaps Industry

Pacific oyster canning may be seriously handicapped by a capricious ruling of the federal Food and Drug Administration, which seeks to apply identical standards to all canned oysters—regardless of species and natural characteristics resulting therefrom and from the area of growth.

The administration sought to modify its own previous rulings and to compell a drained weight which can be attained in the case of Pacific oysters only if the quality of the oysters has been seriously impaired by excessive shrinking and toughening, and by mashing and crushing in order to get the large oysters typical of the Pacific pack into the can.

After various hearings and inquires into the matter, the Food and Drug Administration ruled late in the year that the drained weight of all oysters, regardless of size or species, in a No. 1 Eastern Oyster can would have to be 6½ oz. This was a concession from the earlier position taken by the agency, but still showed bureaucratic disregard of

PACIFIC CANNED OYSTERS

Season of 1946-47

Company	Cannery Location	Cases No. 1, E. O. (4-doz.)	Cases Other Sizes	Total Standard Cases 48, No. 1, E. O.
Bendiksen, E. H.	Ocean Park, Wash.	....	(a) 1,320	....
	South Bend, Wash.	9,858	(b) 109	9,995
Coast Oyster Co.	South Bend, Wash.	18,650	....	18,650
Eberhardt, Herman	Ocean Park, Wash.	9,885	....	9,885
Goetz Oyster Co.	Stanwood, Wash.	2,000	....	2,000
Ilwaco Oyster Co.	Nahcotta, Wash.	3,747	....	3,747
Northern Oyster Co.	Oysterville, Wash.	1,500	....	1,500
Paragon Packing Co.	Hoquiam, Wash.	1,484	....	1,484
Tillamook Oyster Co.	Tillamook, Ore.	500	....	500
Wiegardt Bros.	Ocean Beach, Wash.	15,477	....	15,477
Willapa Bay Oyster Co.	Ocean Park, Wash.	5,500	....	5,500
Willapoint Oysters, Inc.	Bay Center, Wash.	17,682	....	17,682
Miscellaneous	Grays Harbor	1,750	....	1,750
Total, 1946-47		88,033	1,429	88,170

Pacific Canned Oysters Packed in—

1946	89,050	1940	148,870	1934	68,323
1945	3,184	1939	112,549	1933	31,315
1944	none	1938	111,348	1932	12,233
1943	583	1937	110,872	1931	7,930
1942	72,315	1936	118,853		
1941	178,445	1935	88,062		

Note.—Packs of smoked oysters are not included in the totals in the column showing packs in standard cases. This total column is concerned only with steam-canned oysters.

Figures prior to 1947 are from the U.S. Fish and Wildlife Service, compiled on a calendar year basis.

(a) Smoked oysters, 3½-oz., 2 dozen to case. (b) One-pound talls.

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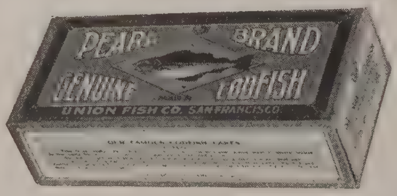

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the fact that the trade and industry showed such a fill could be attained only at the expense of quality.

Renewal of protests against this ruling resulted in promise of further hearings, which had not been held early in 1948.

1947 Seed Imports

Importation of foreign seed oysters became possible in the spring of 1947 for the first time in many years, and the industry planted heavily, as follows:

Areas—	Cases of Seed
California—	
Tomales Bay	250
Moro Bay	500
Oregon—	
Coos Bay	8,200
Tillamook Bay	9,225
Washington—	
Willapa Harbor	20,750
Grays Harbor	5,200
North Puget Sound	6,025
South Puget Sound	4,147
British Columbia—	2,192
Alaska—	100
Total	56,589

Natural Spawning Heavy

Singularly, this heavy planting of imported seed was followed by a very favorable natural seeding, particularly in Willapa Harbor.

The Washington state biologists studying the oysters reported that the seeding had been "super-abundant".

Counting together with the natural seeding, this condition will undoubtedly provide an abundance of Pacific oysters for a number of years in the future.

PACIFIC OYSTER PRODUCTION

Shucked Pacific Oysters — Season 1946-47

Company	Plant Location	Gallons Shucked Oysters
Belfair Oyster Co.	Belfair, Wash.	8,469
Booth Fisheries Corporation	Seattle, Wash.	(a) 33,500
Brenner Osyter Co., J. J.	Olympia, Wash.	(b) 8,099
Galtz Oyster Co.	Stanwood, Wash.	8,000
Eberhard, Herman	Ocean Park, Wash.	15,026
Haines Oyster Co.	All Plants	(c) 118,787
Ilwaco Oyster Co.	Nahcotta, Wash.	38,465
National Fish & Oyster Co.	Tacoma, Wash.	5,000
Northern Oyster Co.	Oysterville, Wash.	1,600
Paragon Packing Co.	Hoquiam, Wash.	8,770
Rock Point Oyster Co.	Blanchard, Wash.	30,533
Smith & Matthews Oyster Co.	Ocean Park, Wash.	11,627
Tillamook Oyster Co.	Tillamook, Ore.	6,500
Turner, R. D.	Anacortes, Wash.	10,778
Westley & Klock	Quilcene, Wash.	4,500
Whiz Fish Products Co.	Gig Harbor, Wash.	20,000
Willapa Bay Oyster Co.	Ocean Park, Wash.	10,000
Miscellaneous		220,000
Total, 1946-47 Season		**598,493**
1945-46 Production		589,749
1944-45 Production		699,515
1943-44 Production		417,903

NOTE.—"Miscellaneous" item in table above covers oysters reported by growers as shipped to openers whose production of shucked oysters is not given in the table.

(a) Also shucked 200 gals. native oysters.

(b) Slso shucked 3,778 gals. native oysters.

(c) Also shucked 1,371 gals. native oysters.

Olympia Seeding Phenonemal

Rate of spatfall of Olympia native oysters during the 1947 spawning season exceeded any previous maximum record since biological studies of the species were instituted.

Scientists reported that the spat in some areas—notably Oyster Bay—quickly saturated the cultch, and that the seeding there was "tremendous".

This supplement to the stock of native oysters on the beds was most gratifying to the industry, which had suffered for some time from inadequate natural seedings.

The excellent spawning of Pacific oysters in the summer of 1947 enabled the spawned-out oysters to come into condition rapidly in the fall months, with no re-absorbtion handicap. As result, the average quality of the shellfish during the fall months was exceptionally high, and the oysters were suitable for canning somewhat earlier than usual.

The fact remained, however, that the stocks of mature oysters available for market were short, and that the supply would run below demand and prices would remain high.

Freezing of Pacific oysters, reported elsewhere in this issue, showed substantial peacetime volume, and points the way to notable development of year-round market outlet.

1947—Weighted Average Shellfish Prices at Seattle—1947

Shellfish	Unit	Dec. 1946	Jan. 1947	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
		Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Clams, butter, in shell	Sacks	7.50	6.11	5.70	5.41	5.00						6.00	6.10
Clams, butter, (meats)	Gallons	3.41											
Clams, Little Neck, in shell	Sacks	8.50	8.25	7.88	7.50	8.00						7.50	8.20
Clams, Razor, in shell	Pounds				0.12								
Clams, meat	Gallons												
Clams, Import	Pounds												
Clam Meat, Import	Pounds												
Crabs, Dungeness	Dozen	3.16	2.90	2.90	2.80	3.09	2.53	2.36	2.40	2.25		2.00	2.00
Crabs, Dungeness, Import	Pounds												
Crabmeat	Pounds	0.75	0.75	0.75	0.73	0.65	0.84	0.80	0.72	0.88		0.90	0.84
Crabmeat, frozen	Pounds												
Lobsters	Pounds				0.48								
Lobster Tails	Pounds												
Octopus, Round	Pounds	0.073	0.05	0.049	0.038	0.084	0.04	0.06	0.06		0.05	0.04	0.05
Oysters, shucked:													
Eastern	Gallons	7.00	7.00	7.00	7.00	7.00			7.00	6.75	7.00	7.00	7.00
Olympia	Gallons	18.10	18.00	18.00	18.00	18.10	18.00	18.00	18.00	20.00	20.00	20.00	20.00
Pacific	Gallons	3.28	3.35	3.35	3.20	3.21	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Scallops, Bay	Gallons	6.00	6.00	6.00	5.55	6.00	6.00	5.81	5.00	5.00	5.00	5.00	5.00
Scallops, frozen	Gallons												
Shrimp, Local	Pounds	0.15				0.26	0.20	0.16	0.20		0.20		0.31
Shrimp, Gulf	Pounds												
Shrimp, frozen	Pounds												
Shrimpmeat	Pounds												
Squid, Round	Pounds	0.045					0.03						
Squid, Calif., Round	Pounds												
Miscellaneous	Pounds												

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SHAD

Active demand for canned fish shot the Pacific pack of canned shad—as differentiated from canned shad roe—up to 17,892 full cases in 1947, as against 9,629 cases the year before and 1,810 cases in 1945.

This pack was all made on the Columbia River, the California industry not packing any canned shad during the year. This continued a suspension of shad canning in California which began in 1946.

1947--Pacific Canned Shad Pack--1947

Company	Location	Shad		Shad Roe ½-lb. Flats and Ovals (4 doz.)
		1-lb. Talls	½-lb. Flats	
Barbey Packing Co.	Astoria, Ore.		1,294	706
Chinook Packing Co	Chinook, Wash		(a) 141	11
Columbia River Packers Assn., Inc.	Astoria, Ore.	11,316		5,098
Columbia River Salmon Co.	Astoria, Ore		1,888	416
Point Adams Packing Co.	Hammond, Ore.	3,090		1,200
Union Fishermen's Coop. Packing Co.	Astoria, Ore.	1,824		429
Total		**16,230**	**3,323**	**7,860**

(a) Smoked Shad.

Shad roe was canned to the extent of 7,860 cases of halves.

An interesting trend in shad during 1947 was the virtually complete abandonment of the canning of smoked or kippered shad. This article boomed into considerable importance during 1945 and 1946 under conditions resulting from OPA ceiling prices and rulings.

Although having considerable merit as a specialty item, kippered shad evidently has since lagged in consumer acceptance and in 1947 packing was virtually suspended, only 141 cases of this specialty being reported.

The character of the market for shad fresh and frozen has a great deal to do with the volume of the canned production, and cannot be predicted far in advance. This is due in large part to the fact that the Atlantic coast run may affect the demand for the extra-early Sacramento River production.

Canned Shad and Shad Roe--1920 to 1947

Year	Oregon-Washington		California		Total, Pacific Coast		Year
	Shad (full cases)	Shad Roe (4-Doz.½'s)	Shad (full cases)	Shad Roe (4-Doz.½'s)	Shad (full cases)	Shad Roe (4-Doz.½'s)	
1920	8,251	892	3,936	908	**12,187**	**1,800**	1920
1921	871	6			**871**	**6**	1921
1922	1,410	174			**1,410**	**174**	1922
1923	2,128	826			**2,128**	**826**	1923
1924	4,478	300	3,000		**7,478**	**300**	1924
1925	6,120	1,672	6,564	4,320	**12,684**	**5,992**	1925
1926	14,457	1,416			**14,457**	**1,416**	1926
1927	16,081	830	8,787		**24,868**	**830**	1927
1928	17,560	3,264	7,475	2,884	**25,035**	**6,148**	1928
1929	15,944	2,630	7,005	2,612	**22,949**	**7,242**	1929
1930	10,783	1,724	1,792	2,414	**12,575**	**6,138**	1930
1931	757	2,156		3,442	**757**	**5,598**	1931
1932	361	1,614		1,714	**361**	**4,328**	1932
1933	1,020	976		1,314	**1,020**	**2,290**	1933
1934	8,098	3,302		1,150	**8,098**	**4,452**	1934
1935	5,495	2,060	5,068	2,270	**10,563**	**4,330**	1935
1936	4,131	2,004	15,124	5,178	**19,255**	**7,182**	1936
1937	3,380	1,084	4,677	1,684	**8,057**	**2,768**	1937
1938	3,194	1,186	7,655	4,102	**10,849**	**5,288**	1938
1939	8,472	2,963	9,193	3,772	**17,665**	**6,735**	1939
1940	6,234	4,453	12,187	3,756	**18,421**	**8,209**	1940
1941	4,269	3,470		100	**4,269**	**3,570**	1941
1942	7,713	5,137	20,058	4,887	**27,770**	**10,021**	1942
1943	2,249	3,901	11,516	6,252	**13,765**	**10,153**	1943
1944	3,806	4,556	12,854	4,171	**16,660**	**8,727**	1944
1945	1,810	4,265		536	**1,810**	**4,801**	1945
1946	9,629	6,589			**9,629**	**6,589**	1946
1947	17,892	7,860			**17,892**	**7,860**	1947

ROCKFISH—

Canning of Pacific Rockfish, initiated rather actively in 1946, was revived energetically in 1947 in spite of the adverse reception with which the product met in some markets.

The United Kingdom came rather heavily into the market in the spring of 1947, just a short time before suspension of free-permit transactions, and a fairly large volume of the goods went to that country.

Selling price for the major portion of the 1947 rockfish pack was $8, but some weakening was reported after export buying ran into a set-back.

Canning of rockfish apparently depends upon two factors: availability of the fish at comparatively low price levels, and consumer acceptance of the product.

Future of canned rockfish admittedly is uncertain.

The method used for canning rockfish was worked-out at the Oregon food laboratory at Astoria in 1946, and was further refined in packing practice in 1947.

It involves pre-cooking the fish in a steam retort; followed by the careful separation of the skin from the flesh and the flesh from the bones.

Dark meat is eliminated, and the flaked fish is packed in half-pound flat tins with a small amount of salad oil, plus salt for seasoning.

1947—Pacific Rockfish Canning—1947

Company	Cannery Location	Cases 4-Doz. ½-Lb.
Columbia River Salmon Co.	Astoria, Ore.	**8,328**
Del Mar Canning Co.	Warrenton, Ore.	**37,000**
Kaakinen Fish Co.	Westport, Wash.	**3,000**
Paragon Packing Co.	Astoria, Ore.	**13,190**
Sebastian-Stuart Fish Co.	Astoria, Ore.	**9,223**
Union Fishermen's Cooperative Packing Co.	Astoria, Ore.	**5,241**
Yaquina Bay Fish Co.	Newport, Ore.	**6,324**
Total		**82,306**

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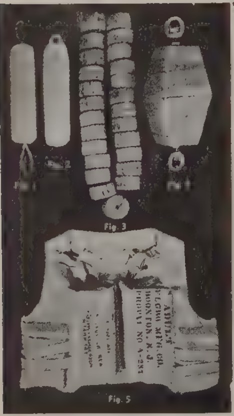

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(By Calendar Years)

YEAR	HERRING								PILCHARDS, CANNED* CASES (48-lbs.	YEAR
	FISH LANDED "GREEN" CWTS.	CANNED CASES (48-lbs.)	DRY SALTED, CWTS.	CURED AND SMOKED, CWTS.	PICKLED BBLS.	FRESH AND FROZEN (INCL. BAIT), CWTS.	OIL, IMPERIAL GALLONS	HERRING MEAL, TONS		
1915..	467,452	†11,468	183,704	5,791	8,890	108,302	....	....	....	1915
1916..	496,030	35,487	172,988	4,014	7,590	145,844	....	....	....	...1916
1917..	487,241	46,650	161,865	6,263	7,293	144,743	....	....	1,090	...1917
1918..	636,921	61,657	172,610	19,564	....	122,128	....	....	63,963	...1918
1919..	567,868	64,002	255,058	9,979	6,796	61,199	....	....	63,065	...1919
1920..	1,001,357	19,986	512,168	8,197	1,431	97,413	....	....	91,929	...1920
1921..	944,866	4,149	479,971	8,133	2,417	102,487	....	....	16,091	...1921
1922..	1,002,519	2,114	522,768	6,946	755	96,164	....	....	19,186	...1922
1923..	1,035,823	3,099	744,036	6,728	1,970	84,309	....	....	17,195	...1923
1924..	1,157,625	....	853,543	9,193	146	73,833	....	....	14,898	...1924
1925..	1,437,875	391	1,083,174	5,622	52	71,169	....	....	37,182	...1925
1926..	1,301,269	433	938,647	6,199	80	71,788	13,700	310	26,731	...1926
1927**	1,724,246	....	1,048,190	15,005	138	81,222	170,450	1,838	58,501	...1927
1928..	1,535,118	....	1,072,188	6,187	65	114,635	68,411	831	65,097	...1928
1929..	1,315,667	....	923,848	6,060	187	126,717	37,264	437	98,821	...1929
1930..	1,221,962	....	805,973	4,713	46	86,642	60,373	1,774	55,166	...1930
1931..	1,480,314	43	788,227	2,315	142	71,566	110,810	3,094	17,336	...1931
1932..	1,003,204	....	269,420	296	50	57,322	186,173	6,195	4,622	...1932
1933..	1,077,373	....	513,024	2,445	100	33,701	316,213	4,078	2,946	...1933
1934..	820,362	2,295	414,626	3,213	132	53,448	104,710	2,570	35,437	...1934
1935..	1,008,507	....	302,710	4,386	117	72,848	306,767	5,262	27,184	...1935
1936..	1,620,625	51,695	383,337	4,335	28	44,362	782,499	10,085	35,007	...1936
1937..	1,929,795	27,365	203,401	3,601	68	82,181	1,283,658	14,427	40,975	...1937
1938..	1,328,913	23,376	149,700	52	20	73,489	929,158	9,624	69,473	...1938
1939..	2,164,812	222,658	160,315	13,733	1,591	56,536	1,366,607	16,482	7,300	...1939
1940..	3,395,013	727,292	104,812	15,816	1,737	79,878	1,700,819	24,264	59,166	...1940
1941..	1,688.515	1,013,329	3,850	4,643	834	96.832	584,157	8,757	58,038	...1941
1942..	2,040,840	1,253,978	....	....	2,440	48,600	653,710	10,896	46,451	...1942
1943..	1,592,249	1,221,015	....	....	....	44,870	678,464	10,114.66	101,356	...1943
1944..	1,799,600	1,211,866	....	....	2,936	79,535	857,164	8,507.14	92,882	...1944
1945 .	2,641,988	1,416,517	....	....	....	4,689	1,100,857	12,771.41	75,724	.. 1945
1946 .	1,941,362	1,162,774	....	....	....	180,469	896,615	7,801.55	....	.1946
1947	2,380,206	1,360,642	. .		.	84,566	1,292,638	11,321 29	. ...	.1947

* Other pilchard products, and tonnage of pilchards landed, are shown in tabulations in the Fish Oil and Meal Department of this issue.
** In 1927 there were gathered 1,000 cwt. herring scales.

Alaska Cured Herring Pack -- 1910 to 1947

Year	Number Plants	SCOTCH CURE			BLOATER STOCK BARRELS	Grand Total All Styles Full Barrels
		BARRELS	HALF BARRELS	TOTAL (Full Bbl. Basis)		
1910......	....	....	....	....	1,195	**1,195**
1911......	....	....	....	....	4,651	**4,651**
1912......	....	....	....	....	6,008	**6,008**
1913......	....	....	....	....	3,462	**3,462**
1914......	....	....	....	....	8,196	**8,196**
1915......	27	....	....	....	8,691	**8,691**
1916......	28	....	....	....	18,296	**18,296**
1917......	27	11,771*	....	**11,771**	11,786	**23,557**
1918.....	58	57,929*	....	**57,929**	47,465	**105,394**
1919......	27	34,267*	....	**34,267**	8,294	**42,859**
1920......	14	25,402	21,487	**36,145**	294	**36,439**
1921	18	40,393	48,415	**24,207**	568	**65,168**
1922.....	36	96,753	95,591	**144,548**	777	**145,325**
1923	32	41,605	75,278	**79,244**	2,222	**81,466**
1924	49	44,091	66,120	**77,151**	....	**77,151**
1925	64	79,255	116,767	**137,639**	1,518	**139,157**
1926	80	38,931	48,436	**63,149**	1,158	**64,307**
1927	52	30,523	53,538	**57,292**	260	**57,552**
1928	90	33.634	64,576	**65,922**	2.700	**68,622**
1929......	30	14,955	22,962	**26,436**	829	**27,265**
1930......	39	19,901	22,442	**30,132**	1,274	**31,406**
1931......	29	16,533	30,222	**31,644**	1,057	**32,701**
1932	29	25,524	51,402	**51,225**	2,980	**54,205**
1933	40	17,406	66,588	**50,700**	3,156	**53,856**
1934......	27	16,542	28,420	**30,752**	3,372	**34,124**
1935......	41	31,054	57,329	**59,718**	5,870	**65,588**
1936	29	20,420	50,641	**45,740**	402	**46,142**
1937.....	8	2,913	11,001	**8,413**	52	**8,465**
1938......	9	5,786	6,317	**8,945**	1,746	**10,691**
1939......	10	7,773	8,202	**11,874**	2,458	**14,332**
1940......	23	8,850	18,135	**17,918**	966	**18,884**
1941......	7	2,848	9,975	**7,836**	1,058	**8,894**
1942	4	658	‡2,224	**1,370**	....	**1,370**
1943......	5	1,623	5,779	**4,512**	....	**4,512**
1944 .	4	1,222	**5,873	**4,159**	....	**4,159**
1945...	5	2,470	9,578	**7,259**	....	**7,259**
1946....	7	1,327	13,994	**8,324**	...	**8,324**
1947	5	1.341	13,391	**8,037**	† 314	**8,351**

* Half-barrels not segregated. ** Includes 227 quarter-barrels. † Packed in half tierces.

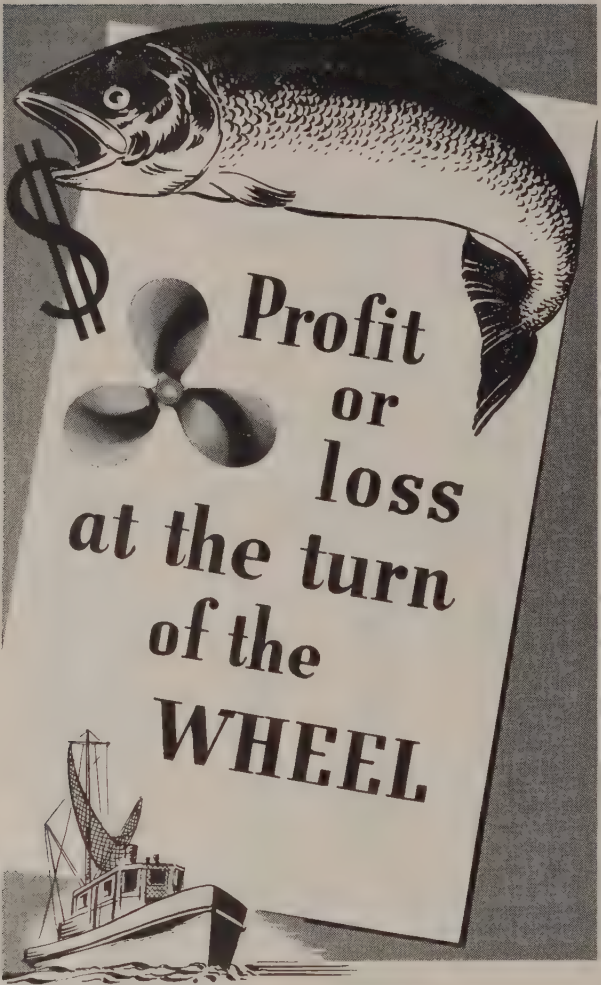
Alaska cured herring production in 1947 ran just a shade—27 bbls.—above that of the year before.

Scotch-cured goods amounted to 8,037 bbls., on a full-barrel basis, with the large majority of the production in halves. There were 3,271 packages of halves, with 240 quarters.

Number of active operators was small, but 1947 saw the return of herring curing to Southeast Alaska, where Arentsen & Co. put up a small pack in halves at Big Port Walter.

Other curing was confined entirely to the Kodiak Island district, Prince William Sound not being in operation during the year as result of lateness in concluding the fishing agreement. Operators deemed it too risky to undertake a Prince William herring venture so late in the season.

One Kodiak firm, Krautter & Christiansen, cured on the south side of the island, where the fishery centered in the heyday of Kodiak curing, but most of the production came from the Shelikof Strait side.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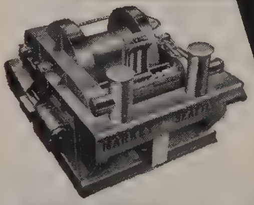

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CODFISH

HERRING

1947 - Alaska Cured Herring - 1947

Company	Location	Full Barrels	Half Barrels
Apex Fish Co.	Port Wakefield	533	6,310 (a)
Arentsen & Co.	Big Port Walter	....	232
Chatham Strait Fish Co.	Zachar Bay	147	907
Krautter & Christiansen.	Old Harbor	....	54 (b)
Oceanic Fisheries Co.	Port Vita	661	5,888 (c)
Total Packages		**1,341**	**13,391**
Total, Full Barrel Basis		**8,037**	....

(a) Includes 180 quarter bbls., counted as 90 halves.
(b) Includes 60 quarter bbls., counted as 30 halves.
(c) Also packed 157 half tierces.

The year saw no curing of herring in the Aleutian area.

Packing of bloater stock was limited to one parcel of 157 half tierces packed at Port Vita.

Conditions in the Alaska cured herring picture remain gloomy, in view of the continued prospect of heavy imports from Iceland and Newfoundland; and the probable resumption of substantial shipment from Scotland.

Cost of production in Alaska, plus high freight charges, impose a handicap upon the domestic industry which cannot be overcome by existing tariffs, or any which can be realistically anticipated at the present time.

Outlets for Alaska cured herring necessarily are restricted to the comparatively limited market which has preference for these goods; and to a portion of the limited Pacific Coast trade, where some relatively small freight advantage may lie with the American product.

Scant change occurred in Pacific codfishing in 1947, the pattern of the year being almost identical with that of its predecessor.

The same two vessels — *C. A. Thayer* and *Wawona* — went north with the same two skippers—Capt. Knute Pearson and Capt. Tom Haugen—and came back with almost the same quantity of fish—240,424 fish as against 242,907 in 1946.

The season generally was unsatisfactory, the *Wawona* in particular encountering adverse weather and extended delays.

The codfish season of 1947 may possibly be the last in which sailing schooners will go north on this trade. At time of writing both companies active in salt codfishing said their plans for 1948 were uncertain, and that dispatch of the schooners again was in doubt.

On the other hand, the possibility of a Bering Sea codfish operation involving power vessels, whether as trawlers or carriers, loomed as likely in 1948.

Both companies have acquired surplus vessels suitable for conversion to codfishing, and at the first of 1948 were involved in studying the possibilities of their utilization in this sub-Arctic trade.

Problems of sailing schooner operation in the codfish business are largely those arising from shortage of experienced fishermen. In recent years very few men have chosen to follow this dory trade, even power dories, and it has been with the greatest difficulty that the codfish companies have manned their fishing craft.

In view of this condition, operators have turned their attention to the possibilities of applying mechanized methods to Pacific codfishing, as has been done long since in the North Atlantic.

An innovation of 1947 was the saving of cod livers aboard the *Wawona*. In previous years the market for livers has never been attractive to Pacific codfish operators and the livers have gone over the side.

In advance of the 1947 season, Robinson Fisheries Co. installed a 3,000 cu. ft. cold storage aboard the *Wawona*, and 30,000 lbs. of livers were brought down in the fall. As it happened, the livers arrived at a time of sharp depression in the vitamin oil market, with the result that the venture proved somewhat unfortunate.

Trawls were operated extensively in the Bering Sea in 1947 as the 140′ trawler *Deep Sea* made three trips there and the 100′ trawler *Alaska* made one. These vessels were fishing for King crab primarily, but retained such fish as they found. Peculiarly, they reported that the catches of fish were light at all times, and that comparatively few codfish were taken.

1947 Pacific Codfish Fleet Catch

Vessel	Owner	Dories	Pounds per Fish	Tons of Fish	Number of Fish
C. A. Thayer	J. E. Shields	12	3.08	217.3	140,724
Wawona	Robinson Fisheries Co.	12	3.36	167.5	99,700
1947 Totals		**24**	**3.20**	**384 8**	**240,424**
Previous Years:					
	1946	27	3.15	383.0	242,907
	1945	12	3.44	247.8	144,317
	1944	10	3.36	255.0	151,322
	1943	No operation			
	1942	12	3.55	315.47	177,447
	1941	46	3.57	1,145.00	641,925
	1940	47	3.54	1,576 00	890,155
	1939	52	3.55	1,537.00	863,263
	1938	52	3.18	1,560 00	982,365
	1937	78	3.06	1,859.01	1,238,801
	1936	94	3.07	2,229 74	1,496,700
	1935	94	3.09	2,210.70	1,428,329
	1934	100	3.35	2,544 50	1,520,255
	1933	93	3.18	2,485,50	1,559,221

Year	Fish	Year	Fish
1932	1,203,231	1919	3,341,000
1931	1,214,460	1918	3,357,384
1930	1,774,075	1917	3,880,633
1929	1,882,200	1916	3,891,986
1928	1,580,752	1915	3,798,071
1927	1,632,928	1914	3,920,802
1926	2,351,060	1913	2,425,357
1925	3,112,489	1912	2,326,000
1924	2,407,989	1911	2,793,000
1923	2,629,507	1910	1,969,000
1922	1,957,000	1909	2,460,000
1921	1,969,000	1908	3,245,000
1920	3,027,500	1907	3,012,000

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HALIBUT

Continuously increasing abundance of halibut, resulting from application of scientific conservation measures under international control, in 1947 enabled the fleet to catch the established quota in the shortest period on record.

This was accomplished in spite of the fact that disagreement between fishermen and vessel owners kept a large part of the American fleet idle for the entire Area 2 season and for a large part of that in Area 3.

Producing at a rate unparalleled in the history of the North Pacific halibut fishery, a curtailed fleet in 1947 caught 55 million pounds of halibut in the shortest season since the fishery began.

This quota was taken in record time despite the fact that a dispute between the fishermen and vessel owners kept the Seattle fleet—dominant factor in the American fishery—idle during much of the season.

The 1947 catch of 55,980,000 lbs. although well in excess of quota figures, nevertheless represented a sharp decline from the 60,249,000 lbs. taken in 1947.

This condition was due to a number of factors, principal being the sharpness with which the Interna-

PACIFIC HALIBUT CATCH SINCE 1914

	American Vessels					Canadian Vessels					
Year	Seattle *	Prince Rupert **	Alaska	Oregon and California ***	Total American	Prince Rupert, Butedale	Vancouver, New Westminster Vancouver I.	Total Canadian §	Grand Total	Price at Seattle ‡	Year
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Cents	
1914	41,825,575	1,877,000	5,175,993	....	48,878,568	8,742,100	4,991,500	13,733,600	62,612,168	4.7	1914
1915	33,133,313	11,323,500	5,561,577	....	50,018,390	8,444,715	4,791,000	13,235,715	63,254,105	6.7	1915
1916	20,259,446	13,810,895	6,961,628	....	41,031,969	6,710,500	5,258,000	11,968,500	53,000,469	9.8	1916
1917	22,884,434	14,216,030	6,792,138	....	43,892,602	5,839,030	3,686,000	9,525,030	53,417,632	14.6	1917
1918	16,455,564	10,790,500	6,076,500	....	33,322,564	4,338,000	1,552,000	5,890,000	39,212,564	18.3	1918
1919	16,968,639	13,000,700	7,366,991	....	37,336,330	6,120,000	1,957,000	8,077,000	45,413,330	16.5	1919
1920	19,692,915	14,676,400	8,035,000	....	42,404,315	7,190,000	2,010,600	9,200,600	51,604,915	17.2	1920
1921	17,127,783	19,531,400	8,784,029	....	45,443,212	8,906,000	4,149,400	13,055,400	58,498,612	13.5	1921
1922	14,602,780	17,248,900	4,772,038	....	36,623,718	8,510,000	3,559,500	12,069,500	48,693,218	6½-32	1922
1923	12,017,312	20,366,600	8,283,590	....	40,667,502	9,392,900	3,707,200	13,100,100	53,767,602	12-55	1923
1924	11,889,080	20,913,200	12,663,776	....	45,466,056	8,181,500	4,043,500	12,225,000	57,691,056	11¾-33¼	1924
1925	11,197,474	22,434,800	9,752,465	400,000	43,784,739	6,181,600	3,207,600	9,389,200	53,169,939	8-49	1925
1926	10,156,630	20,483,800	14,011,005	600,000	45,252,435	6,869,200	4,156,500	11,025,700	56,278,135	12¼-47	1926
1927	11,917,150	18,664,400	15,386,766	400,000	46,818,316	6,941,000	1,523,400	8,464,400	55,282,716	10⅝-55	1927
1928	13,788,775	20,389,700	9,623,700	760,000	44,562,175	8,349,500	1,541,500	9,891,000	54,453,175	7-49	1928
1929	12,359,170	20,599,200	12,882,426	1,103,888	46,890,984	8,045,100	1,747,800	9,792,900	56,683,884	10-71	1929
1930	12,671,470	16,997,800	11,389,756	930,000	41,989,832	7,006,600	1,475,200	8,481,800	50,471,632	6-30	1930
1931	15,087,672	10,573,300	9,638,150	953,000	36,252,122	6,202,400	1,424,800	7,627,200	43,879,322	7.26	1931
1932	22,000,296	10,633,800	4,568,829	1,050,000	38,253,025	4,227,700	2,023,200	6,250,900	44,503,925	4.54	1932
1933	22,263,992	8,757,300	6,781,451	679,066	38,461,454	5,649,200	2,630,700	8,300,255	46,761,709	6.51	1933
1934	20,718,328	8,591,983	7,132,059	1,288,980	37,731,350	7,946,499	1,784,873	9,731,372	47,462,722	7.45	1934
1935	22,388,941	6,927,014	6,538,114	1,280,911	37,134,980	7,636,694	2,563,276	10,206,054	47,341,034	8.27	1935
1936	22,726,642	6,204,645	8,654,364	703,646	38,291,697	8,111,472	2,468,936	10,584,653	48,876,350	8.76	1936
1937	21,351,684	7,017,857	8,646,993	690,710	37,707,244	9,032,623	2,711,562	11,765,314	49,472,558	9.09	1937
1938	20,995,966	7,324,178	8,220,752	704,734	37,264,140	8,617,890	3,384,569	12,194,669	49,458,809	8.35	1938
1939	20,070,259	9,319,026	6,897,208	1,013,304	37,299,797	9,904,372	3,466,362	13,465,162	50,764,957	8.69	1939
1940	18,863,872	11,210,740	9,481,893	1,014,321	40,570,826	9,323,133	3,355,516	12,683,872	53,254,698	10.30	1940
1941	19,095,973	10,036,640	8,998,580	1,123,594	39,254,787	8,708,902	4,173,967	12,959,499	52,214,286	11.82	1941
1942	14,865,306	13,430,294	10,169,162	771,477	39,236,239	5,997,895	5,203,996	11,201,891	50,438,130	16.95	1942
1943	13,278,341	12,309,595	14,096,356	1,046,144	40,730,436	6,281,348	6,487,010	12,907,123	53,637,559	22.40	1943
1944	11,881,680	5,444,672	21,853,111	879,511	40,058,974	8,458,974	4,823,502	13,340,173	53,399,147	16.87	1944
1945	12,651,000	4,571,000	21,049,000	1,093,000	39,364,000	11,606,000	3,503,000	15,301,000	54,665,000	16.84	1945
1946	13,932,000	4,384,000	22,502,000	928,000	41,740,000	15,117,000	2,919,000	18,509,000	60,249,000	21.31	1946
1947	5,884,000	2,618,000	22,429,000	966,000	31,897,000	17,761,000	6,052,000	24,083,000	55,980,000	24.96	1947

‡Up to 1921 the figures given are estimated averages for No. 1 halibut. From 1922 to 1930, inclusive, they are the extreme ranges of prices paid for No. 1 halibut. Beginning with 1931 they represent the official average price of all halibut landed at Seattle, as computed from the statistics of the U. S. Bureau of Fisheries.

*Includes the very small amount of fish landed at Neah Bay and elsewhere on Puget Sound.

**Includes the fish occasionally landed by American vessels at Butedale, Vancouver and elsewhere in Canada.

***Landings in Oregon and California not segregated prior to 1925.

§Totals include halibut landed by Canadian vessels in American ports. In 1938 such landings included 166,516 lbs. landed at Seattle and 25,694 lbs. landed in Alaska. In 1939 they included 79,533 lbs. landed at Seattle and 14,895 lbs. landed in Alaska. In 1940, they included 5,223 lbs. landed in Alaska. In 1941, the inclusions were 60,673 lbs. landed in Seattle and 15,957 lbs. in Alaska. In 1942, included 65,680 lbs. landed in Alaska. In 1943, included 44,199 lbs. in Alaska and 94,566 lbs. at Seattle. In 1944, included 59,211 lbs. landed in Alaska. In 1945 included 192,000 lbs. landed in Alaska. In 1946, included 473,000 lbs. landed in Alaska. In 1947 included 270,000 lbs. landed in State of Washington.

NOTE:—1947 figures of the International Fisheries Commission are preliminary and subject to further correction.

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Pacific Halibut Catch by Areas and Nationalities--1932 to 1947

YEAR	AREA 1	AREA 2†			AREA 3			TOTAL AMERICAN	TOTAL CANADIAN	Grand Total	YEAR
	AMERICAN	AMERICAN	CANADIAN	**Total**	AMERICAN	CANADIAN	**Total**				
	Pounds	Pounds	Pounds	**Pounds**	Pounds	Pounds	**Pounds**	Pounds	Pounds	**Pounds**	
1932	902,271	16,026,631	5,960,640	**21,987,271**	21,146,037	451,761	**21,597,798**	38,074,939	6,412,401	**44,487,340**	1932
1933	722,254	14,880,259	7,649,400	**22,529,659**	22,887,941	637,072	**23,525,013**	38,490,454	8,286,472	**46,776,926**	1933
1934	1,541,258	13,360,103	9,004,714	**22,364,817**	22,829,989	726,658	**23,556,648**	37,731,350	9,731,372	**47,462,722**	1934
1935	*1,489,294	13,112,709	8,954,740	**22,067,449**	22,532,977	1,251,314	**23,784,291**	37,134,980	10,206,054	**47,341.034**	1935
1936	708,301	13,865,731	8,696,865	**22,562,596**	23,717.665	1,887,788	**25,605,453**	38,291,697	10,584,653	**48,876,350**	1936
1937	709,752	13,445,575	9,852,348	**23,297,923**	23,551,917	1,912,966	**25,464,883**	37,707,244	11,765,314	**49,472,558**	1937
1938	706,316	13,737,819	9,571,461	**23,309,280**	22,820,005	2,623,208	**25,443,213**	37,264,140	12,194,669	**49,458,809**	1938
1939	1,072,675	13,466,002	10,913,035	**24,379,037**	22,761,120	2,552,125	**25,313,245**	37,299,797	13,465,160	**50,764,957**	1939
1940	779,036	14,395,547	11,101,558	**25,497,105**	25,396,243	1,582,314	**26,978,557**	40.570,826	12,683,872	**53,254,698**	1940
1941	332,259	13,332,247	10,609,166	**23,941,413**	25,590,281	2,350.333	**27,940,614**	39,254,787	12,959.499	**52,214.286**	1941
1942	285,621	14,046,982	9,147,146	**23,194,128**	24,903,636	2,054,745	**26,958,381**	39,236,239	11,201,891	**50,438,130**	1942
1943	419,944	13,740,543	11,116,583	**24,857,126**	26.569,949	1,790,540	**28,360,489**	40,730 436	12,90 .123	**53,637.559**	1943
1944	318.689	14,957,704	11,149,714	**26,107,418**	24,782.581	2,190,459	**26,973,040**	40,058,974	13,340,173	**53,399,147**	1944
1945	529.000	13,230,000	11,750,000	**24,980.000**	25,605,000	3,551,000	**29,156,000**	39,364,000	15,301,000	**54,665 000**	1945
1946	605,000	14,068,000	14,451,000	**28,519,000**	27,067,000	4,058,000	**31,125,000**	41,740,000	18,509,000	**60,249,000**	1946
1947	512,000	10,511,000	17,129,000	**27,640,000**	20,874,000	6,954,000	**27,828,000**	31,897,000	24,980,000	**55,980,000**	1947

† Figures for Area 2 for 1937 and thereafter include halibut which were taken incidentally to cod fishing after the closure of Area 2, as allowed by regulations of the International Fisheries Commission for these years. The approximate amounts are: 278,000 lbs. in 1937; 280,000 in 1938; 372,943 lbs. in 1939; 304,155 lbs. in 1940; 510,204 lbs. in 1941; 55,895 lbs. in 1942; 856,360 lbs. in 1943; 844,596 lbs. in 1944; 920,000 lbs. in 1945; 1,184,000 lbs. in 1946; 422,275 lbs. in 1947.

* This figure includes landings from Areas 1 and 4, as defined in the regulations for 1935. This amount should compare directly with the Area 1 catch of previous years, as it is not believed any fish were landed in 1935 from that portion of Area 4 which included Bering Sea.

NOTE.—1947 figures of the International Fisheries Commission are preliminary and subject to further correction.

tional Fisheries Commission closed the Area 3 season. Actually, the quota in that area was not quite taken. The figure established by regulation for the catch in that area was 28 million pounds, the same as in 1947. The area catch, however, was 27,828,000 lbs., affording a sharp contrast with the previous year, when the Area 3 catch exceeded the quota by more than 3 million pounds.

Also, the amount of halibut landed under permit as result of fishing for other species shrank sharply in 1947, aggregating only 422,275 lbs., as against 1,184,000 lbs., in 1946. The Area 2 catch also decreased somewhat.

The commission's closure of Area 2 found the catch running more than 3 million pounds in excess of the quota, but the catch of 27,640,000 lbs. was still nearly a million pounds below the catch of 1946.

Fleet Delayed by Dispute

An early feature of the fishery was the deadlock between Seattle vessel owners and fishermen over

1947 — Seattle Halibut Landings by Months — 1947

MONTHS	TRIPS	HALIBUT NO. 1		HALIBUT NO. 2		LINGCOD		ROCKFISH		SABLEFISH		**Total**	
	NUMBER	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE	POUNDS	VALUE
January	13	....	....	....	....	63,271	$7,872	16,430	$1,648	....	....	**79,701**	**$9,520**
February	10	....	....	....	....	69,000	8,201	7,800	926	....	....	**76,800**	**9,127**
March	14	....	....	....	....	80,054	6,461	27,222	2,088	359	$ 36	**107,635**	**8,585**
April	....	....	....	....	....	....	....	....	....	....	....	....	....
May	14	135,116	$27,951	114,170	$18,741	6,151	175	538	21	240	24	**256,215**	**46,912**
June	12	78,741	19,461	76,300	15,542	5,310	357	1,000	50	....	....	**161,351**	**35,410**
July	26	859,000	229,582	415,000	97,695	....	....	500	25	23,000	2,358	**1,297,500**	**329,660**
August	86	2,493,791	654,948	1,281,885	291,425	....	....	9,200	580	116,000	13,864	**3,900,876**	**960,817**
September	49	71,850	20,478	....	....	2,500	141	54,250	3,088	622,000	78,725	**750,600**	**102,432**
October	46	48,200	13,910	....	....	850	51	29,400	1,774	425,550	54,827	**504,000**	**70,562**
November	21	19,250	6,151	....	....	8,100	914	8,850	990	168,900	25,937	**205,100**	**33,992**
Total	**291**	**3,705,948**	**$972,481**	**1,887,355**	**$423,403**	**235,236**	**$24,172**	**155,190**	**$11,190**	**1,356,049**	**$175,771**	**7,339,778**	**$1,607,017**
1946 Total	**458**	**6,823,696**	**$1,509,839**	**6,299,384**	**$1,286,742**	**261,803**	**$23,787**	**218,598**	**$14,136**	**1,358,433**	**$199,832**	**14,961,914**	**$3,034,336**

SIZE OF HALIBUT FLEET
(Includes Regular Halibut Boats Only)

YEAR	UNITED STATES FLEET				CANADIAN FLEET				COMBINED FLEETS			
	AREA 2	AREA 2	AREA 3	AREA 3	AREA 2	AREA 2	AREA 3	AREA 3	AREA 2	AREA 3	AREA 3	AREA 3
	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MDN	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MEN	NUMBER OF BOATS	NUMBER OF MEN
1943	247	1,037	107	942	162	767	3	24	409	1,804	110	966
1944	278	1,056	84	753	278	831	4	34	485	1,887	88	767
1945	316	1,253	97	837	175	867	3	26	491	2,120	100	863
1946	373	1,373	116	921	187	952	5	41	560	2,325	121	962
1947	350	1,302	119	887	215	1,168	5	40	565	2,470	124	927

NOTE:—1947 figures of the International Fisheries Commission are preliminary only and subject to further correction.

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1947 Halibut Arrivals at Alaska Ports

Month	Ketchikan	Wrangell	Petersburg*	Sitka	Juneau**	Western Alaska	Total
May	1,884,000	394,000	1,169,000	746,000	1,863,000	472,000	**6,528,000**
June	1,731,000	115,000	738,000	530,000	1,180,000	864,000	**5,158,000**
July	2,886,000	106,000	526,000	913,000	1,584,000	1,301,000	**7,316,000**
August	992,000	24,000	376,000	445,000	776,000	752,000	**3,365,000**
September	4,000	2,000	12,000		16,000		**34,000**
October	6,000	2,000	7,000		12,000		**27,000**
November					1,000		**1,000**
TOTALS	**7,503,000**	**643,000**	**2,828,000**	**2,634,000**	**5,432,000**	**3,389,000**	**22,429,000**
1946	9,871,000*	693,000	2,807,000	2,366,000	4,384,000	2,359,000	**22,480,000**
1945	9,344,000	606,000	2,227,000	2,775,000	3,916,000**	2,181,000	**21,049,000*****
1944	9,554,962	1,008,312	2,486,084	2,694,073	3,540,637	2,569,043	**21,853,111**
1943	7,450,730	727,157	1,936,825	1,691,697	2,289,947		**14,096,356**
1942	5,749,469	469,037	1,559,221	834,046	1,816,148		**10,169,162**
1941	3,367,567	375,135	1,463,801	2,173,697	1,616,928		**8,998,580**
1940	3,798,134	400,735	1,718,490	1,370,412	1,984,511		**9,481,893**
1939	2,263,927	279,660	1,460,190	931,557	2,001,999		**6,897,208**
1938	2,828,111	414,928	1,965,843	906,852	2,039,814		**8,220,752**
1937	3,642,996	590,834	1,352,807	893,602	1,832,533		**8,646,993**
1936	3,556,364	494,221	1,979,813	945,933	1,541,674		**8,654,364**
1935	3,752,488	112,060	474,672	667,811	1,341,864		**6,538,114**
1934	3,155,474	284,950	1,002,792	1,172,264	1,463,761		**7,132,059**

* Includes nearby miscellaneous ports. ** Includes Pelican City landings.
*** Does not include 472,000 pounds of halibut landed at Alaskan ports by Canadian vessels, from June to October.
NOTE:—1947 figures of the International Fisheries Commission are preliminary and subject to correction.

the matter of boat share. In advance of the season the Seattle vessel owners sought to change the halibut lay to provide a boat share of 23% of the gross stock in place of the 20% boat share which had prevailed since 1916.

The Deep Sea Fishermen's Union opposed the rise and the fleet was deadlocked and idle during all of the Area 2 season and much of that for Area 3.

The vessel owners contended that the investment in a vessel had advanced greatly since the lay was established, while operating costs have undergone relative decline. The matter was brought to a head particularly by the Washington unemployment take, to which the fleet had been made subject, this 3% impost not being shared by halibut vessels resident elsewhere.

After extended sparring, the union offered a 21% boat share on June 15. This was rejected by the owners, but finally was accepted July 1, long after the Area 2 season had closed, and when it was evident that the Area 3 season would close earlier than ever before.

Percentage Divisions of Catch Between Fleets

Year	CANADIAN			AMERICAN		
	Area 2	Area 3	All Areas	Area 2	Area 3	All Areas
1947	50.7	13.0	30.7	49.3	87.0	69.3
1946	50.2	13.0	30.8	49.8	87.0	69.2
1945	47.0	12.2	28.0	53.0	87.8	72.0
1944	42.7	8.2	25.0	57.3	91.8	75.0
1943	44.5	5.8	24.1	55.5	94.2	75.9
1942	39.0	7.7	22.2	61.0	92.3	77.8
1941	44.2	8.4	24.7	55.8	91.6	75.3
1940	43.5	5.9	23.8	56.5	94.1	76.2
1939	44.8	10.0	26.5	55.2	90.0	73.5
1938	41.3	10.4	24.7	58.7	89.6	75.3
1937	42.6	7.5	23.8	57.4	92.5	76.2
1936	38.8	7.0	21.7	61.2	93.0	78.3
1935	40.8	5.3	21.3	59.2	94.7	78.7
1934	40.2	3.0	20.5	59.8	97.0	79.5
1933	33.9	2.7	17.7	66.1	97.3	82.3
1932	27.1	2.0	14.4	72.9	98.0	85.6

1947—Halibut Arrivals at British Columbia Ports—1947

Month	Prince Rupert Butedale and Klemtu	New Westminster Vancouver and Namu	District No. 3* and Victoria	Total Canadian Vessels	American Vessels at Prince Rupert	Grand Total
May	8,114,000	2,203,000	1,236,000	11,553,000	536,000	**12,089,000**
June	4,032,000	1,591,000	539,000	6,162,000	224,000	**6,386,000**
July	3,506,000	369,000	1,000	3,876,000	902,000	**4,778,000**
August	2,073,000	106,000		2,179,000	923,000	**3,102,000**
September	25,000			25,000	25,000	**50,000**
October	9,000	4,000		13,000	8,000	**21,000**
November	2,000	3,000		5,000		**5,000**
Totals	**17,761,000**	**4,276,000**	**1,776,000**	**23,813,000****	**2,618,000**	**26,431,000**
1946	15,117,000	2,023,000	896,000	18,036,000**	4,378,000	**22,413,000**
1945	11,606,000	2,340,000	1,163,000	15,109,000**	4,571,000	**19,680,000**
1944	8,457,460	3,604,517	1,218,985	13,280,962**	5,444,672	**18,725,634**
1943	6,381,348	5,155,435	1,331,575	12,907,123	12,337,126	**25,018,553**
1942	5,910,928	4,035,866	1,104,459	11,201,891	13,415,795	**24,467,048**
1941	8,625,079	3,139,621	1,014,192	12,959,499	10,033,720	**28,812,612**
1940	9,319,667	1,999,314	1,002,401	12,683,872	11,210,740	**25,632,122**
1939	9,904,289	3,018,504	445,500	13,465,162	9,319,026	**22,687,319**
1938	8,619,526	2,794,557	586,619	12,194,669	7,324,178	**19,343,390**
1937	9,026,372	2,333,370	377,796	11,765,314	7,015,057	**18,773,489**
1936	8,113,365	2,054,167	399,200	10,584,653	6,205,377	**16,772,209**
1935	7,636,704	2,246,196	349,300	10,206,054	6,927,581	**17,159,781**
1934	7,946,499	1,513,273	271,600	9,731,372	8,591,983	**18,323,355**

*The figures for District No. 3 were obtained from the Canadian Government by the International Fisheries Commission, and amended by data from other sources.
**Total Canadian does not include landings in the State of Washington of 270,000 pounds in 1947, or landings in Alaska of 473,000 pounds in 1946
NOTE.—1947 figures of the International Fisheries Commission are preliminary and subject to further correction.

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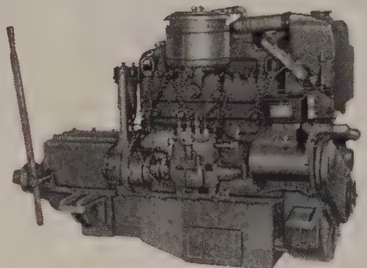

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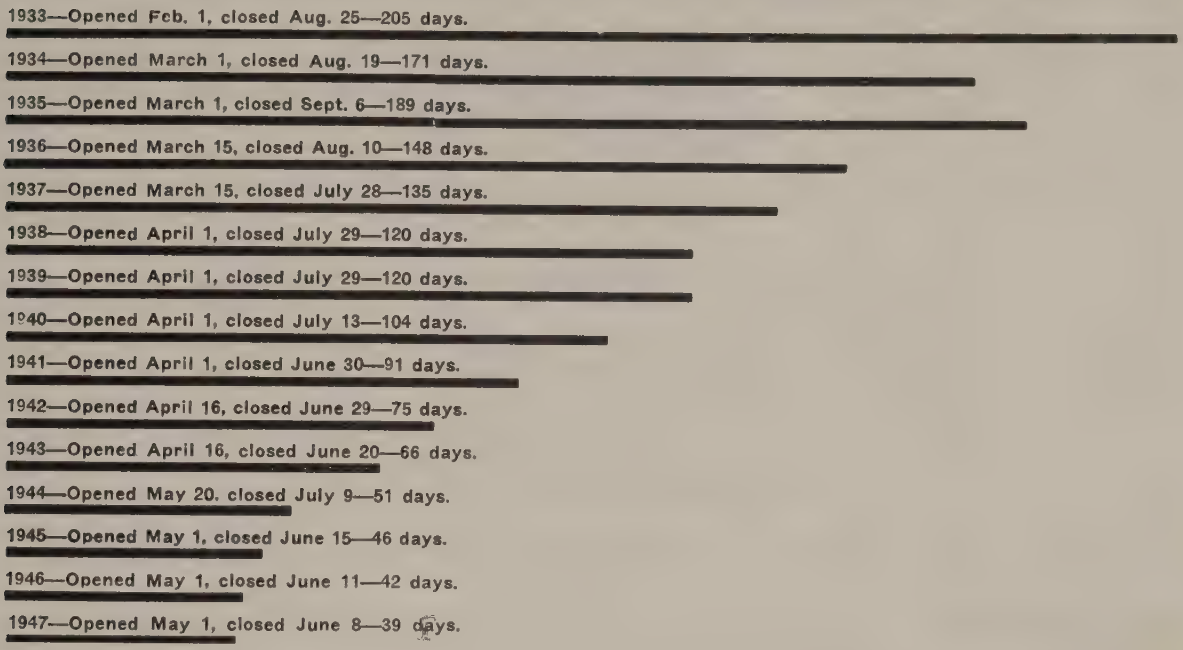
DECLINING LENGTH OF AREA 2 HALIBUT SEASON



Changes in Regulations

The 1947 halibut regulations made two important changes from those of previous years.

The boundary between Areas 3 and 4 was relocated to place the grounds lying immediately north of the Aleutian Islands in Area 3. This was done by defining the boundary as a line running due west from Cape Sarichef on Unimak Island. The waters north of the Alaska Peninsula remain in Area 4.

A catch limit of 500,000 lbs. was established for Area 4 by the 1947 regulations.

Indicative of the closeness with which the International Fisheries Commission is able to anticipate, and to control, the catch of halibut was a release issued in the spring of 1947. This presented the broad aspects of the new regulations, and closed with the statement that the commission anticipated a catch of 55,000,000 lbs. of halibut in 1947. The eventuality proved the estimate exceptionally close.

Oregon and California Halibut Landings 1947

Month	Oregon	California*
May	281,000	93,000
June	230,000	74,000
July	67,000	130,000
August	21,000	44,000
September	3,000	8,000
October	9,000	3,000
November	2,000	1,000
Totals	613,000	353,000

*California figures include some estimated poundage.

Note: 1947 figures of the International Fisheries Commission are preliminary and subject to further correction.

Seasons Shortest Ever

The 1947 fishing seasons in both Areas 2 and 3 were the shortest on record. That for Area 2 closed June 8, being only 39 days in length; while the Area 3 season closed August 17, two days earlier than in 1946, being only 109 days long.

Rise of Cooperatives Shifts B. C. Fishing

One of the noteworthy developments of the 1947 halibut season was the rise of the British Columbia cooperatives as a factor of real importance in the business, particularly at Prince Rupert.

1947—PACIFIC HALIBUT CATCH—AREAS 2 AND 3 BY MONTHS

Month	Area 2			Area 3			Total		
	U. S.	Canada	Total	U. S.	Canada	Total	U. S.	Canada	Total
May	6,363,000	11,724,000	**18,087,000**	1,278,000	98,000	**1,376,000**	7,641,000	11,822,000	**19,463,000**
June	3,652,000	5,294,000	**8,946,000**	2,201,000	868,000	**3,069,000**	5,853,000	6,162,000	**12,015,000**
July	81,000	52,000	**133,000**	9,543,000	3,825,000	**13,368,000**	9,624,000	3,877,000	**13,501,000**
August	134,000	16,000	**150,000**	7,852,000	2,163,000	**10,015,000**	7,986,000	2,179,000	**10,165,000**
September	140,000	25,000	**165,000**				140,000	25,000	**165,000**
October	116,000	13,000	**129,000**				116,000	13,000	**129,000**
November	25,000	5,000	**30,000**				25,000	5,000	**30,000**
Totals	**10,511,000**	**17,129,000**	**27,640,000***	**20,874,000**	**6,954,000**	**27,828,000**	**31,385 000**	**24,083,000**	**55,468,000**

* This figure includes approximately 422,275 pounds of halibut which were taken incidentally to cod fishing after the closure of Area 2, as allowed by the 1947 Regulations of the International Fisheries Commission.

This table does not include the partially estimated amount of 511,000 pounds landed from Area 1, or the 1,314 pounds landed from Area 4

Note:—1947 figures of the International Fisheries Commission are preliminary and subject to further correction.

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Seattle Halibut Sales by Months and Grades with Average Prices Paid

	Western No. 1—Lbs.	Average Price	Western No. 2—Lbs.	Average Price	Local No 1—Lbs.	Average Price	Local No. 2—Lbs.	Average Price	Total Lbs	General Average Price
1947										
May	70,500	20.06	22,500	16.11	64,616	21.36	91,670	16.48	249,286	18.73
June					78,741	24.71	76,300	20.37	155,041	22.57
July	856,000	26.71	415,000	23.54	3,000	30.66			1,274,000	25.69
August	2,484,723	26.26	1,277,752	23.52	9,067	27.26	4,133	22.69	3,775,676	25.06
September					71,850	28.50			71,850	28.50
October					48,200	28.81			48,200	28.81
November					19,250	31.95			19,250	31.95
TOTALS	**3,411,224**	**26.24**	**1,715,252**	**22.84**	**294,724**	**26.19**	**172,103**	**18.36**	**5,593,303**	**24.96**
1946										
May	760,785	17.49	520,374	16.00	948,603	17.50	755,535	16.00	2,985,297	16.86
June	1,471,628	17.50	1,285,372	16.00	627,406	17.49	571,797	15.99	3,956,203	16.79
July	1,677,955	27.10	1,726,606	24.49	3,188	25.84	574	21.08	3,408,323	25.78
August	1,222,467	28.61	1,416,326	25.05	8,932	24.68	2,477	22.85	2,650,202	26.69
September					35,499	34.10	8,671	32.26	44,170	33.74
October					67,233	35.00	11,652	35.00	78,885	35.00
TOTALS	**5,132,835**	**23.28**	**4,948,678**	**21.55**	**1,690,861**	**18.59**	**1,350,706**	**16.28**	**13,123,080**	**21.31**
1945										
May	1,000,955	17.60	527,658	16.02	867,807	17.70	731,031	16.13	3,127,451	17.01
June	954,642	17.50	697,771	16.01	604,155	17.48	541,412	16.04	2,797,980	16.84
July	1,474,360	17.51	1,335,125	15.85	2,468	17.83	653	16.23	2,812,606	16.72
August	737,993	17.50	664,934	16.00	5,489	17.56	323	16.09	1,408,739	16.79
September	589,289	17.49	600,878	16.01	2,959	17.13	2,557	15.99	1,195,683	16.75
October	268,696	17.50	257,481	16.00	25,841	17.49	11,029	16.00	563,047	16.78
November					12,733	17.49	5,289	15.99	18,022	17.05
TOTALS	**5,025,935**	**17.52**	**4,083,847**	**15.95**	**1,521,452**	**17.46**	**1,292,294**	**16.09**	**11,923,528**	**16.84**
1944										
May					14,788	17.50	12,509	16.22	26,847	16.82
June	915,058	17.49	433,488	15.99	1,282,148	17.49	1,177,613	15.99	3,808,307	16.86
July	1,470,157	17.54	1,063,302	16.02	567,313	17.78	521,771	16.23	3,622,543	16.94
August	357,916	17.49	288,204	16.00	19,151	17.82	7,708	16.16	672,979	16.86
September	552,408	17.44	406,659	15.87	15,532	17.92	6,213	16.15	980,812	16.58
October	487,755	17.49	391,903	15.99	16,697	17.80	5,062	15.78	901,417	16.84
November	703,252	17.49	678,366	16.00	8,464	17.66	2,136	16.11	1,392,218	16.76
TOTALS	**4,486,546**	**17.50**	**3,261,922**	**15.99**	**1,924,093**	**17.59**	**1,733,012**	**16.05**	**11,405,123**	**16.86**
1943										
April	427,713	39.30	139,727	19.30	264,531	22.20	326,288	20.80	1,158,259	21.70
May	1,439,713	22.80	706,465	20.90	792,465	22.70	1,097,792	21.00	4,035,928	22.10
June	1,728,657	24.40	1,254,458	22.50	930,888	24.70	963,712	22.40	4,877,715	23.50
†July	1,056,041	23.80	911,150	19.80	10,070	23.60	6,773	19.50	1,984,034	22.00
August	50,188	17.50	27,064	16.00	9,495	17.40	5,036	17.30	91,783	17.10
September	147,814	17.40	51,738	15.90	22,952	17.40	8,611	15.90	231,115	17.10
October					30,060	17.50	7,566	15.90	37,626	17.20
TOTALS	**4,850,126**	**23.40**	**3,090,602**	**21.10**	**2,060,461**	**23.45**	**2,415,778**	**21.51**	**12,416,460**	**22.47**
1942										
April	304,127	13.87	105,053	12.97	174,173	17.72	129,469	14.76	712,822	14.84
May	1,136,632	14.66	600,406	13.92	1,079,112	14.76	857,386	13.43	3,673,536	14.28
June	576,170	17.69	576,242	16.65	991,016	17.88	911,002	16.54	3,054,430	17.21
July	749,795	20.26	784,953	17.87	251,217	17.13	277,608	15.60	2,063,573	18.35
August	749,903	20.02	790,811	16.91	20,183	24.33	5,167	16.62	1,566,064	18.49
September	1,207,665	19.54	1,058,532	17.21	39,123	23.77	4,185	21.16	2,309,505	18.55
October	357,802	19.89	318,958	17.63	28,276	24.86	2,010	21.44	707,046	19.07
TOTALS	**5,082,094**	**18.10**	**4,234,955**	**16.66**	**2,583,100**	**16.71**	**2,186,827**	**15.12**	**14,086,976**	**16.95**
1941										
April	1,213,371	10.08	489,932	9.37	514,434	11.42	395,506	9.85	2,613,243	10.18
May	1,287,848	10.54	684,840	9.36	877,323	10.58	724,559	9.16	3,574,570	10.05
June	866,542	11.70	629,328	10.81	760,671	11.91	624,868	10.26	2,881,409	11.25
July	1,612,175	13.99	1,100,741	12.46	349,700	12.42	277,921	11.22	3,040,537	13.00
August	1,592,407	13.49	1,322,022	12.83	21,163	14.86	3,115	15.50	2,938,707	13.21
September	1,822,000	13.59	1,426,381	12.71	46,191	15.46	2,923	14.74	3,297,495	13.24
October					25,866	20.18	1,189	18.41	27,055	20.11
1941 TOTALS	**8,394,343**	**11.98**	**5,653,244**	**11.79**	**2,595,348**	**11.60**	**2,030,081**	**9.94**	**18,393,670**	**11.82**
1940 TOTALS	**7,343,438**	**10.67**	**5,468,809**	**10.25**	**2,901,430**	**10.33**	**2,823,870**	**9.44**	**18,565,838***	**10.30**
1939 TOTALS	**8,171,019**	**9.30**	**5,399,244**	**8.84**	**2,962,012**	**8.49**	**3,285,078**	**7.08**	**19,892,739**	**8.69**
1938 TOTALS	**9,087,516**	**8.90**	**5,536,117**	**8.60**	**2,532,098**	**8.43**	**3,614,035**	**6.54**	**20,769,766**	**8.35**
1937 TOTALS	**10,013,021**	**9.79**	**5,523,057**	**8.33**	**2,608,758**	**9.71**	**3,021,157**	**7.60**	**21,165,993**	**9.09**
1936 TOTALS	**10,431,015**	**9.17**	**6,974,279**	**8.50**	**2,762,428**	**8.76**	**2,404,854**	**7.76**	**22,572,576**	**8.76**
1935 TOTALS	**11,465,100**	**.0864**	**4,710,000**	**.0794**	**3,066,500**	**.0825**	**2,450,100**	**.0719**	**21,691,700**	**.0827**
1934 TOTALS	**10,265,600**	**.0776**	**3,784,400**	**.0666**	**2,912,050**	**.0867**	**3,243,750**	**.0656**	**20,205,800**	**.0749**
1933 TOTALS	**10,785,700**	**.0747**	**3,912,000**	**.0586**	**2,718,300**	**.0787**	**4,345,400**	**.0516**	**21,761,400**	**.0677**
1932 TOTALS	**9,189,700**	**.0559**	**3,615,000**	**.0333**	**3,433,200**	**.0651**	**5,553,250**	**.0381**	**21,791,150**	**.0484**

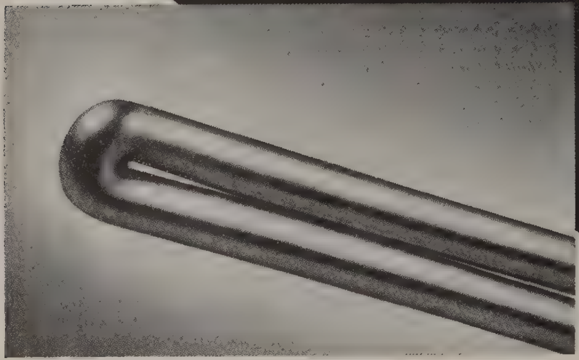
*Includes 11,736 lbs. landed in January and February. **Included with Western. †Ceiling prices became effective July 13, 1943.

Data from 1936 to 1941 are official figures, based upon statistics of the United States Fish & Wildlife Service, which are based on amounts of halibut actually weighed out, graded and paid for. Data for years previous to 1936 represent fares as hailed and sold on the Seattle Fish Exchange. Note that prices for 1936 and after are quoted in cents and for previous years in decimals of a dollar.

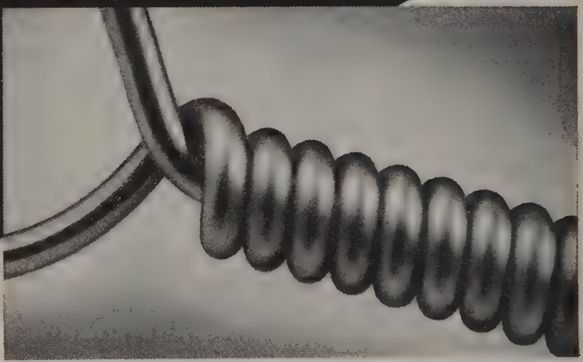
Figures given here are for sales over the Seattle Fish Exchange only and quantities do not coincide precisely with other totals for Puget Sound landings, which include minor quantities landed and sold elsewhere.

EACH ZINC-COATED WIRE IN BETHANIZED ROPE

can stand this test



Bethanized wire can be bent back flat on itself without cracking the heavy, ductile zinc coating.



Bethanized wire can be twisted around its own diameter without damaging the protective zinc jacket.

Try it yourself. Take a short piece of wire from any bethanized fishing line rope and bend it flat like a hairpin. Then take one end and twist it tightly around the other end. Examine the wire closely and you will find the zinc coating has no cracks or checks.

This simple test shows how tight and how ductile zinc coating can be when it is applied by the exclusive bethanizing process. It also indicates how bethanized rope can stand rugged handling in seiner or trawler service.

The secret of bethanized coating is the electrolytic method that Bethlehem uses. Pure zinc is applied to the steel by means of a powerful electric current. The zinc goes on evenly all around the individual wire, making a heavy, uniform, rust-resisting coating with no thin spots.

Ask your distributor about bethanized ropes for all fishing and marine uses. They cost no more than ordinary galvanized wire ropes and they last longer.

View of electrolytic cell where pure zinc is applied in a heavy, uniform coating to bethanized wire.

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BETHLEHEM WIRE ROPE

Monthly Landings of Food Fish by the Otter Trawl Fleet at Seattle 1942-1947

STATISTICS, COMPILED BY U. S. FISH AND WILDLIFE SERVICE, ARE IN TERMS OF POUNDS.

Month 1942	"Sole" and Flounders					Halibut	True Cod (Dressed)	Lingcod (Dressed)	Sablefish (Dressed)	Rockfish	Miscellaneous	TOTAL 1942
	English Sole	Petrale Sole	"Turbot"	Flounders	TOTAL							
January	101,797	....	3,233	23,151	**128,181**	....	42,160	14,127	....	14,849	185	**199,502**
February	244,679	....	2,867	67,097	**314,643**	....	22,993	23,042	2,070	50,685	299	**413,732**
March	332,051	....	2,025	31,086	**365,162**	....	60,030	42,915	....	65,982	120	**534,209**
April	410,667	....	2,600	10,600	**423,867**	2,330	43,208	122,297	4,586	91,365	....	**687,653**
May	1,466,803	....	370	28,095	**1,495,268**	100,932	46,430	596,237	22,988	97,780	....	**2,359,635**
June	1,696,788	....	....	28,395	**1,725,183**	90,760	31,835	648,767	57,912	168,211	....	**2,722,668**
July	1,034,315	....	5,560	200	**1,040,075**	6,704	54,396	653,643	54,639	114,997	....	**1,924,454**
August	774,242	....	7,117	1,015	**782,374**	....	56,670	406,187	78,045	93,912	200	**1,417,388**
September	186,381	361,174	23,587	26,322	**597,464**	....	91,001	125,366	34,272	40,269	665	**889,037**
October	89,780	142,967	133,825	95,133	**461,705**	....	42,962	39,745	21,266	132,482	....	**698,160**
November	56,883	28,350	117,590	41,256	**244,079**	....	41,833	17,910	3,583	114,954	....	**422,359**
December	69,937	3,490	5,478	39,527	**118,432**	....	13,904	8,369	871	63,783	1,425	**206,784**
TOTAL	**6,464,323**	**535,981**	**304,252**	**391,877**	**7,696,433**	**200,726**	**547,422**	**2,698,605**	**280,232**	**1,049,269**	**2,894**	**12,475,581**
1943												**1943**
January	65,052	290	996	38,240	**104,578**	....	12,144	6,959	....	22,610	4,358	**150,649**
February	102,550	3,620	19,375	14,174	**139,719**	....	19,860	8,694	460	55,351	7,331	**231,415**
March	189,129	60,720	65,489	10,460	**325,798**	....	88,154	47,302	280	283,499	2,010	**747,043**
April	334,020	108,255	50,449	10,560	**503,284**	21,502	34,295	57,529	25	549,707	1,010	**1,167,352**
May	153,530	1,342,690	56,395	11,930	**1,564,545**	159,227	116,156	579,430	14,294	613,777	....	**3,047,429**
June	22,955	1,262,673	13,930	250	**1,299,808**	190,315	60,056	1,802,424	25,724	252,012	....	**3,630,339**
July	22,470	876,843	209,395	210	**1,108,918**	....	49,186	943,344	119,286	250,385	....	**2,471,119**
August	8,065	605,618	364,550	225	**978,458**	....	32,914	288,286	78,236	104,620	....	**1,482,514**
September	129,045	378,498	1,275,546	3,831	**1,786,920**	....	46,038	155,900	215,091	568,020	2,455	**2,774,424**
October	98,671	333,057	973,934	6,080	**1,411,742**	....	31,074	149,389	252,009	338,515	4,536	**2,187,265**
November	253,055	154,017	(a) 51,956	22,998	**482,026**	....	59,669	74,729	1,933	164,628	1,326	**784,311**
December	195,141	1,941	10,969	26,55[illegible]	**234,602**	....	38,270	27,388	1,269	75,998	3,813	**381,340**
TOTAL	**1,573,683**	**5,128,222**	**3,092,984**	**145,[illegible]**	**9,940,398**	**371,044**	**587,816**	**4,141,374**	**708,607**	**3,279,122**	**26,839**	**19,055,200**
1944												**1944**
January	67,053	1,298	2,390	25,859	**96,600**	....	25,485	26,323	40	36,564	224	**185,236**
February	104,138	5,569	10,988	4,007	**124,702**	....	27,216	18,982	1,105	70,294	3,208	**245,507**
March	151,635	58,773	50,364	6,545	**267,317**	....	32,689	37,452	7,054	228,308	13,414	**586,234**
April	170,887	377,237	1,810	52,142	**602,076**	....	24,212	169,887	12,308	271,788	85	**1,080,356**
May	68,803	1,739,261	....	17,581	**1,825,645**	....	19,985	785,105	38,071	426,158	323	**3,095,287**
June	4,130	716,477	....	....	**720,607**	....	33,564	872,712	69,663	499,764	425	**2,196,735**
July	4,625	275,982	....	....	**280,607**	....	39,860	509,725	380,253	373,873	....	**1,584,318**
August	50,880	448,510	....	195	**499,585**	....	37,768	553,823	267,624	528,105	140	**1,887,045**
September	16,206	279,485	....	575	**296,266**	....	37,197	511,891	72,864	283,103	320	**1,201,641**
October	16,260	350,525	....	70	**366,855**	....	32,533	239,587	97,071	1,276,650	230	**2,012,926**
November	37,458	124,831	....	870	**163,159**	....	31,858	34,026	3,689	278,574	915	**512,221**
December	101,835	17,565	....	846	**120,246**	....	28,602	10,647	....	83,478	3,801	**246,774**
TOTAL	**793,910**	**4,395,513**	**65,552**	**108,690**	**5,363,665**	....	**370,969**	**3,770,160**	**949,742**	**4,356,659**	**23,085**	**14,834,280**
1945												**1945**
January	74,170	2,780	....	7,273	**84,223**	....	23,347	7,156	100	128,317	....	**243,143**
February	127,647	8,450	....	3,905	**140,002**	....	38,207	14,593	....	325,890	....	**518,692**
March	76,030	14,517	....	135	**90,682**	....	53,162	28,683	1,292	393,698	....	**567,517**
April	102,462	321,480	....	719	**424,661**	....	151,680	189,535	1,706	1,738,264	....	**2,505,846**
May	27,405	782,955	....	3,960	**814,320**	....	246,546	720,332	495	1,888,539	....	**3,670,232**
June	6,890	1,756,346	....	490	**1,763,726**	....	292,023	1,095,340	1,509	1,888,211	....	**5,040,809**
July	2,550	761,580	17,045	1,950	**783,125**	....	240,090	567,467	30,676	2,620,026	....	**4,241,384**
August	11,500	204,120	25,646	4,110	**245,376**	....	43,000	235,207	42,338	967,555	....	**1,533,476**
September	2,205	192,880	3,180	165	**198,430**	....	51,070	126,535	53,361	498,738	....	**928,134**
October	80,465	504,418	2,670	18,660	**606,213**	....	213,885	217,416	88,949	1,657,053	....	**2,783,516**
November	97,354	129,918	505	27,280	**255,057**	....	175,455	63,515	9,499	459,245	....	**962,771**
December	196,456	22,260	110	318,950	**537,776**	....	168,997	53,279	1,442	375,374	....	**1,136,868**
TOTAL	**805,134**	**4,701,704**	**49,156**	**387,597**	**5,943,591**	....	**1,697,462**	**3,319,058**	**231,367**	**12,940,910**	....	**24,132,388**
1946												**1946**
January	138,013	2,171	....	21,749	**161,933**	....	87,179	26,121	148,497	195,911	3,073	**622,714**
February	632,465	22,595	....	6,122	**661,182**	....	111,303	77,023	107,789	478,543	3,819	**1,439,659**
March	400,278	34,232	....	8,730	**443,240**	....	97,744	46,414	75	817,627	2,109	**1,407,209**
April	364,474	376,112	....	7,546	**748,132**	....	291,268	284,668	1,750	1,472,058	1,143	**2,799,019**
May	30,850	748,561	....	9,675	**789,086**	....	156,747	333,379	23,469	373,813	477	**1,676,971**
June	12,301	1,024,529	....	12,560	**1,049,390**	....	261,371	553,458	25,296	579,747	1,256	**2,470,518**
July	....	546,820	....	....	**546,820**	....	491,911	416,200	21,079	995,920	829	**2,472,759**
August	6,460	334,683	....	110	**341,253**	....	52,332	119,711	97,844	756,601	811	**1,368,552**
September	228,712	287,784	....	1,635	**518,131**	....	46,623	64,190	83,978	256,071	4,157	**973,150**
October	50,598	41,960	....	49,475	**142,033**	....	25,135	20,583	2,860	62,450	1,358	**254,419**
November	37,885	87,751	....	2,482	**128,118**	....	62,800	27,225	2,105	54,150	1,059	**275,457**
December	23,831	6,375	....	585	**30,791**	....	49,455	7,659	110	61,266	1,535	**150,816**
TOTAL	**1,925,867**	**3,513,573**	....	**120,669**	**5,560,109**	....	**1,733,868**	**1,976,631**	**514,852**	**6,104,157**	**21,626**	**15,911,243**
1947												
January	32,547	1,335	....	9,344	**43,226**	....	34,915	5,965	16,405	34,408	1,548	**136,467**
February	309,755	29,230	....	10,952	**349,937**	....	48,342	26,222	2,523	266,633	37,194	**730,861**
March	319,258	12,368	....	8,455	**340,081**	....	100,406	43,642	....	235,024	7,141	**726,294**
April	116,530	57,935	....	13,185	**187,650**	....	33,230	45,018	1,705	148,550	1,156	**417,309**
May	72,180	512,795	....	15,759	**600,734**	....	63,303	137,825	1,009	263,310	1,764	**1,067,945**
June	66,300	466,218	....	16,740	**549,258**	....	221,467	157,511	4,197	147,761	....	**1,080,194**
July	31,133	746,670	....	36,830	**814,633**	....	137,191	357,334	29,816	357,475	....	**1,696,449**
August	55,620	195,015	....	10,695	**261,330**	....	10,975	114,413	19,240	181,453	....	**587,411**
September	140,220	183,115	....	38,570	**361,905**	....	68,440	398,835	134,208	300,910	....	**1,264,298**
October	63,960	166,285	....	51,664	**281,909**	....	79,365	144,895	96,598	183,597	....	**786,364**
November	179,685	122,925	....	150,244	**452,854**	....	119,403	79,886	56,114	473,211	....	**1,181,468**
December	41,725	142,055	....	8,612	**192,392**	....	57,475	46,996	1,131	560,392	2,000	**860,386**
TOTAL	**1,428,913**	**2,635,946**	....	**371,050**	**4,435,909**	....	**974,512**	**1,558,542**	**362,956**	**3,152,724**	**50,803**	**10,535,446**

Note:—Bellingham landings included with Seattle in last quarter of 1945. Landings during December, 1946, were negligible.

(a) -Includes 5,490 lbs. "Dover Sole," of which not enough was landed in Seattle in the period represented by this tabulation to warrant segregation in a separate column.

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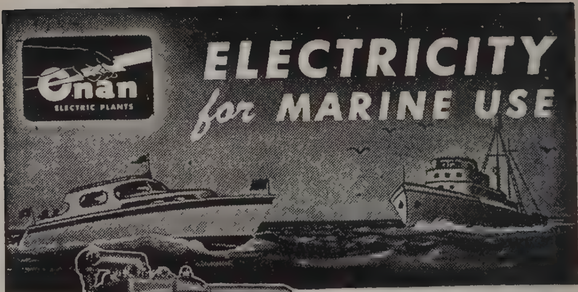

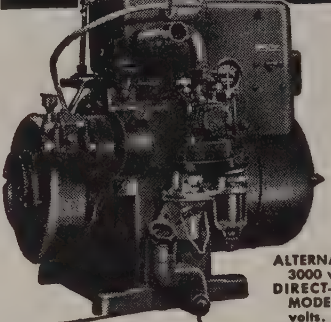

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APEX TROLLING TUBING AND ALL TYPES OF RUBBER PRODUCTS FOR THE FISHING AND CANNING INDUSTRIES

HOSE: steam, water, fire, exhaust, gasoline, suction, etc. RED SHEET packing, Retort door packing, pump diaphragms.

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Mfg. by The
American Rubber Mfg. Co.
OAKLAND 8, CALIFORNIA

1213-1223 WESTERN • SEATTLE, WASHINGTON

1947—Seattle Wholesale Imports from British Columbia—1947

Fresh and Frozen	December 1946	January 1947	February 1947	March 1947	April 1947	May 1947	June 1947	July 1947	August 1947	September 1947	October 1947	November 1947	Total 1947	Total 1946
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Cod, true														285
Fillets														56,213
Fillets Frozen														97,090
Flounder					199								199	16,212
Fillets														11,939
Fillets Frozen														10,450
Halibut						1,054,696	1,260,704	274,752	102,273	39,380	1,200	30,528	2,763,533	372,800
Frozen	93,000		936		188,873		58,392	38,278	30,000		33,364	27,650	470,493	
Herring														22,975
Frozen	6,000										10,000		16,000	80,000
Lingcod				696	101,649	23,398	7,462	328					133,533	86,361
Frozen					31,627						80,396	83,526	195,549	
Fillets Frozen	20,200												20,200	252,850
Fillets														25,235
Perch				2,350	1,299								3,649	17,338
Rockfish					1,208		88						1,296	16,240
Frozen											4,132		4,132	
Fillets														10,848
Fillets Frozen	20,300												20,300	99,165
Sablefish							175						175	
Frozen	31,274												31,274	
Fillets														
Fillets Frozen														
SALMON, Chinook	19,056	8,273		6,151	45,464	461,337	930,030	943,617	787,226	366,255	223,211		3,790,620	2,528 627
Chinook, Frozen	193,430	17,282	54,350	25,537	35,092		84,463	86,064		90,000	194,503	40,000	820,721	398 278
Fillets, Frozen														65 250
Chum											1,354,852	1,938,585	3,293,437	
Chum, Frozen	220,805					191,138	357,904				116,242	238,815	1,124,904	
Pink											464,376		464,376	
Pink, Frozen											26,500	36,000	62,500	
Silver						34,977	286,809	51,468			8,576	30,000	411,830	
Unclassified								5,777			24,006	10,728	40,511	
Smelt, Eulachon														7,970
Eulachon, Frozen						183,753							183,753	3,510
Smelt, Silver					3,250								3,250	
Sole					9,852								9,852	13,943
Fillets	400		1,200		3,530								5,130	22,217
Fillets, Frozen			31,000	64,930		16,800	27,150	70,000	53,000		70,095	54,000	386,975	302,105
Other Fillets			5,755	34,105	21,502	1,948		4,990				1,846	70,146	
Other Fillets, Frozen		33,000			16,000			13,820			22,169	30,127	115,116	
Sturgeon														3,951
Tuna, Albacore								23,048	32,244	4,590	4,726		64,608	1 000
Albacore, Frozen	20,146	35,135		4,040							25,000		84,321	
Whitefish														1,538
Clams, Clammeat					30,735	75,609	84,729	75,385	86,475	93,560	41,680	7,500	495,673	287 300
Crab, Crabmeat	8,291	2,236	924				2,781	6,839	1,880	11,390	19,197	12,267	65,805	141,104
Lobster								12,775	4,700	17,200			34,675	24 920
Octopus	2,160												2,160	13,966
Scallops														10,580
Fillets														
Miscellaneous Shellfish							690	210	800				1,700	
Miscellaneous		1,050	3,000	2,425		64							6,539	
Miscellaneous, Frozen						5,400	6,200						11,600	
Total Fresh	**27,950**	**11,559**	**10,879**	**45,727**	**218,688**	**1,652,029**	**2,573,468**	**1,399,189**	**1,015,598**	**532,375**	**2,141,824**	**2,031,454**	11,662,697	3,667,210
Total Frozen	**607,112**	**85,417**	**86,286**	**94,507**	**271,592**	**397,091**	**534,109**	**208,162**	**83,000**	**90,000**	**582,401**	**510,118**	3,547,838	1,335,053
GRAND TOTAL	**635,062**	**96,976**	**97,165**	**140,234**	**490,280**	**2,049,120**	**3,107,577**	**1,607,351**	**1,098,598**	**622,375**	**2,724,225**	**2,541,572**	15,210,535	5,002,263
CURED FISH:														
Codfish, dried . . . Pounds														
Codfish, salted . . . Pounds														105
Finnan Haddie . . . Pounds			23,469					110,600	200	122,920			257,189	223,875
Herring, salted . . . ½ Tcs.		8,250	5,950	31,162	35,220	5,475							86,057	83,463
Salted . . . Barrels														
Pickled	106	5							143		128	9	391	1
Kippered . . . Pounds														2
Mackerel, salted . . . Pounds	3,600							2,500			2,000	1,100	9,200	45,193
Salmon, mild cured . . . Tcs.	7,500				22,000								29,500	26,250
Smoked . . . Pounds						60	121	60	111	60			412	845
Kippered . . . Pounds														700
Miscellaneous				160		486							646	22,120
Dogfish (Grayfish) oil														750

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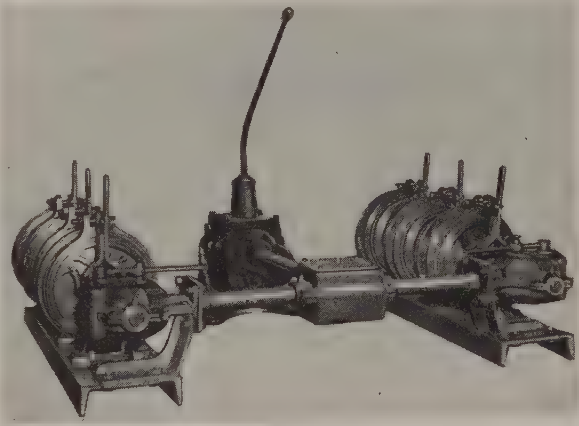
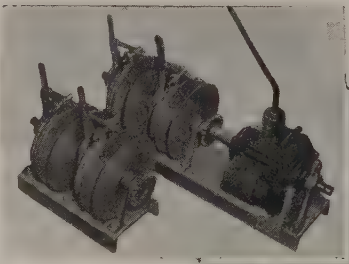
KEEPING abreast of the most advanced trolling technique, and mechanical engineering as applied to trolling gear, Akervick Trolling Gurdies and other trolling equipment are better-than-ever today, combining the best in materials and workmanship.



Above, in this six-spool AKERVICK Trolling Gurdy two angle boxes have been eliminated by running the shaft straight across, with reverse gears on the flat.



Above, four-spool AKERVICK Trolling Gurdy showing transmission assembled to chain drive, which may be at either end of the gurdies.

Below, four-spool AKERVICK Trolling Gurdy, with angle boxes and tee-gear box.

Top, AKERVICK Trolling Cockpit Wheel. Right, AKERVICK Bow Line Shock Absorber on davit, with trolling block attached. Left, AKERVICK Bow Pole Swivel Mount, which permits pole to swing in any direction or position. Center, AKERVICK Throttle Control for attachment to boom over trolling cockpit for controlling engine speed. Bottom, left and right, AKERVICK Angle Gear Boxes, with AKERVICK Tee-Gear Box between.

AKERVICK

Gillnet Reels and
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Competitive demand for salmon from a fresh market which would not be satiated, coupled with a caution born of high prices and the recollection of a substantial carryover, held the Pacific mild cured salmon pack of 1947 to sharply lower levels than in the two years preceding.

The limited pack cancelled any tendency toward weakness, and the business which entered *1948 was thrifty and stable.*

Salmon mild curing in 1907 produced 11,049 tierces, of which all but 110 tierces contained Kings.

The aggregate pack compared with 13,829 tierces the year before, and 13,556 tierces in 1945. In 1946 the Silver pack was 613 tierces, and the year before that it was in excess of 3,000 tierces, being one of the highest packs of this species on record.

The limited production of 1947 resulted largely from a demand for fresh salmon which would not be satisfied, and which was willing to pay almost any price. Mild curing was not curtailed by scarcity of fish, for the season's troll fishing ranked with the best in recent years.

Clamoring canned salmon buyers produced a demand for canning fish which diverted not a little troll salmon — principally Silvers — into tin. The fresh market turned to Kings, and only the best of splitters went into casks.

All Districts Share In Limiting Production

Restrictive tendencies prevailed all along the coast and all of the producing districts shared on about an even basis in the decline, although California was proportionately out-of-line on the low side,

1947--Mild Cured Salmon--1947

Company	Location	Tierces (825 Lbs. Net)	
		Kings	Silvers
ALASKA			
Alaska-Seldovia Packers, Inc	Seldovia	65	
Atlantic & Pacific Packing Co	Ketchikan	364	
	Kuskokwim	25	
	Pelican	128	
	Sitka	274	
Booth Fisheries Corporation	Juneau	52	
	Pelican	150	
Lauridsen, Chris	Yukon River	4	
McCallum-Legaz Fish Co	Sitka	151	13
Morris Fisheries	Ketchikan	11	
New England Fish Co	Ketchikan, Sitka	293	
Northern Commercial Co	Yukon River	128	
Oxenberg Bros	Ketchikan	400	11
	Kuskokwim	78	
	Pelican	29	
	Wrangell	43	
Phillips, E. C	Ketchikan	89	
Polar Fisheries	Ketchikan	223	
San Juan Fishing & Packing Co	Ketchikan	28	
Seaboard Packing Co	Juneau	288	
	Ketchikan	273	
	Pelican	7	
	Sitka	210	
	Wrangell	103	
Sebastian-Stuart Fish Co	Juneau	415	
	Pelican	540	
	Sitka	374	
	Tyee	96	
	Wrangell	62	
Stikine Fish Co	Wrangell	44	
Union Trade & Packing Co	Kalinin Bay	171	59
Vita Food Products	Petersburg	22	
	Sitka	140	11
Whiz Fish Products Co	Juneau	23	
	Ketchikan	216	
	Petersburg	55	
	Pelican	251	
Total Alaska		**5,825**	**94**
BRITISH COLUMBIA			
Canadian Fishing Co., Ltd., The	All Stations	119	
British Columbia Packers, Ltd	All Stations	961	
Prince Rupert Fishermen's Coop	Prince Rupert	505	10
Miscellaneous	Vancouver	80	
Total British Columbia		**1,665**	**10**
PUGET SOUND			
Atlantic & Pacific Packing Co	Seattle	26	
Booth Fisheries Corp	Seattle	18	
Eardley Fish & Fillet Co	Seattle	67	
Kyuquot Trollers Cooperative Assn	Seattle	685	
McCallum-Legaz Fish Co	Seattle	198	
New England Fish Co	Seattle & Everett	92	
Oxenberg Brothers	Seattle	286	
San Juan Fishing & Packing Co	Seattle	203	
Sebastian-Stuart Fish Co	Seattle	28	
Washington Fish & Oyster Co	Seattle	178	
Whiz Fish Products Co	Seattle	298	
Miscellaneous	Seattle	50	
Total Puget Sound		**2,129**	
COLUMBIA RIVER			
Atlantic & Pacific Packing Co	Warrenton	5	
Josephson, Anton	Astoria	45	
San Juan Fishing & Packing Co	Warrenton	43	
Union Fishermen's Coop. Packing Co.	Astoria		6
Total Columbia River		**93**	**6**
CALIFORNIA			
Miscellaneous		1,117	
TOTAL PACIFIC COAST		**10,939**	**110**
GRAND TOTAL, Both Species		**11,049**	

SEBASTIAN-STUART
FISH CO.
SEATTLE 4, U.S.A.

Packers of Fresh and Frozen

SALMON
HALIBUT

Mild Cured SALMON ▾ **Canned SALMON**
▾ **Canned TUNA** ▾

with a pack less than half that of the year before.

Diversion of trolling vessels to Albacore jigging was less of a factor than usual in holding-down curing, as a good many trollers had been burned on their tuna ventures the year before, and naturally feared the fire.

Prices were rather fantastic during the 1947 season. Much salmon was split above 30c in Southeast Alaska, and above 35c at Seattle.

Selling prices for mild cured salmon ran all the way from $360 to nearly $400, f.o.b. Seattle, unrepacked.

Carry-Over Is Absorbed

The trade entered the 1947 producing season with the specter of about 1,000 tierces of carryover from 1946 in storage in Seattle. This was a single block of goods whose owners declined the weakish prices which prevailed in the fall and winter of 1946.

As matters developed during the 1947 market season, the carryover found ready demand at higher prices.

This carryover from the year before must be taken into consideration while appraising the extent to which the 11,049-tierce pack of 1947 may be expected to suffice for the year's supply.

Union Dispute Delays Alaska Troll Opening

Production was slow starting in Alaska in 1947 as the CIO-IFAWA affiliated United Trollers of Alaska sought recognition as sole bargaining agent for the trollers in the Southeastern part of the territory.

Buyers were not averse to granting recognition, but the terms proposed by the UTA left the dealers dubious about the legality of the agreement under the Sherman anti-trust act.

This doubt was sharpened by a spring court decision in California under which IFAWA locals were convicted of anti-trust law violation.

Eventually an emasculated agreement was signed, but only after the closed-shop provisions had been deleted. Principal provision eliminated on advice of counsel was a clause which required buyers to give notice of intent to buy from vessels other than UTA members, and to designate the vessels from which such buying was contemplated.

One feature of the 1947 troll season was the exceptionally heavy fishing found on 40-Mile Bank about the end of June. Operations yielded better in that area, and over a considerable period, than at any time in recent years.

Three Westward Operations

There were two curing ventures on the Kuskokwim River during the 1947 season, with production so limited as to leave doubt if they proved particularly attractive.

In addition to these operations, and two on the Yukon River, the season saw initiation of curing at Seldovia by Capt. C. E. Anderson's Alaska Seldovia Packers, Inc.

PACIFIC MILD CURED SALMON PACK--1900 to 1947

(IN TIERCES OF 825 LBS. NET WEIGHT)

YEAR	ALASKA	BRITISH COLUMBIA	PUGET SOUND	COLUMBIA RIVER	OREGON COAST	CALIFORNIA COAST	SACRAMENTO RIVER	KAMCHATKA	RECAPITULATION		Annual Totals	YEAR
									KINGS	SILVERS		
1900	....	....	....	1,275	....	....	950	....	Segregation of pack as to species not available for years prior to 1923	.. ...	2,225	1900
1901......	67	....	600	3,000	....	....	3,100	....		....	6,767	1901
1902......	67	....	425	4,213	188	504	2,325	....		....	7,722	1902
1903......	8	....	824	6,725	....	354	3,600	....		....	11,511	1903
1904......	34	....	1,250	9,088	....	448	4,719	....		....	15,539	1904
1905......	189	1,175	3,000	9,805	415	310	2,979	....		.	17,873	... 1905
1906.....	1,126	957	....	8,000	740	685	2,177	....		. .	13,685	1906
1907......	1,657	1,993	2,060	6,070	860	722	4,102	....		....	17,464	1907
1908......	1,378	1,060	....	4,960	....	252	3,243	....		....	10,893	1908
1909.....	2,292	1,560	2,109	5,540	664	991	5,111	....		....	18,267	1909
1910.....	3,357	1,638	2,435	7,922	1,465	75	5,516	....		....	22,408	1910
1911.....	3,164	2,006	2,745	8,185	1,377	770	2,011	....		....	19,758	1911
1912......	5,245	1,380	3,013	5,824	3,479	100	3,274	....		....	22,315	1912
1913.....	7,440	2,125	3,631	5,746	2,681	550	4,789	....		..	26,952	 1913
1914... .	3,872	3,182	1,934	5,205	457	1,476	1,829	....		....	17,955	1914
1915......	2,966	1,119	2,235	4,078	333	945	1,630	....		....	13,306	 1915
1916......	4,475	767	1,755	4,656	194	1,069	650	....		....	13,566	1916
1917.....	2,955	429	1,063	1,886	....	300	1,508	....		....	8,181	 1917
1918......	4,234	729	1,093	1,804	275	721	1,913	....		....	9,869	... 1918
1919......	6,803	1,173	2,423	3,328	148	2,381	2,355	....		....	18,611	.. 1919
1920.....	2,770	1,116	2,036	2,275	102	1,793	1,345	....		....	11,437	... 1920
1921.....	3,966	1,076	4,517	3,051	160	1,251	812	....		....	14,833	1921
1922.....	5,158	2,253	4,727	1,621	162	550	1,195	....		....	15,666	1922
1923....	4,075	1,819	5,799	1,769	176	1,229	606	....	15,129	344	15,473	1923
1924.....	6,069	2,969	6,409	2,320	286	2,624	1,291	....	21,476	492	21,968	 1924
1925	7,119	3,098	5,600	2,746	547	2,241	1,523	500	22,530	844	23,374	 1925
1926.....	5,781	2,183	4,087	1,055	1,205	929	1,767	650	16,585	1,072	17,657	1926
1927.....	8,982	2,689	5,160	951	918	927	1,125	854	19,390	2,216	21,606	1927
1928.....	5,784	2,676	4,304	1,305	2,163	1,686	179	783	14,051	4,046	18,880	1928
1929.....	5,477	3,016	4,311	1,969	1,787	1,160	155	1,083	15,749	3,209	18,958	1929
1930.....	5,331	2,630	4,361	1,068	102	1,184	124	2,144	16,049	895	16,944	1930
1931.....	4,123	1,083	5,700	1,251	372	1,027	164	712	13,862	570	14,432	1931
1932.....	5,560	1,542	3,650	2,012	1,119	752	294	640	13,443	2,126	15,569	1932
1933.....	4,852	3,097	3,527	2,431	660	1,392	37	340	15,295	1,041	16,336	1933
1934.....	4,908	4,657	3,882	1,855	270	1,572	5	776	16,960	965	17,925	1934
1935......	5,487	2,665	3,563	1,730	210	2,090	439	670	15,450	1,404	16,854	1935
1936......	5,222	1,642	4,897	1,138	68	1,939	366	840	15,611	495	16,106	1936
1937......	6,373	4,055	2,775	604	....	1,026	49	778	15,552	108	15,660	1937
1938......	7,786	3,128	3,657	1,292	387	627	945	787	16,451	2,158	18,609	1938
1939.....	7,724	2,802	2,937	501	20	417	119	600	14,905	224	15,129	1939
1940......	5,210	693	3,531	33	....	711	308	11	10,283	714	10,497	1940
1941......	8,862	1,474	3,561	229	....	360	15	....	14,174	302	14,501	1941
1942......	6,748	1,055	2,494	20	....	....	....	....	10,241	76	10,317	1942
1943......	3,869	811	1,022	21	....	166	....	....	5,278	611	5,889	1943
1944......	3,518	2,019	959	16	....	1,259	1,329	....	7,969	*1,050	9,100	1944
1945......	7,763	1,209	1,790	159	....	*1,065	1,570	....	10,843	*3,200	13,556	1945
1946......	6,824	1,975	2,170	96	....	....	†2,764	....	13,216	613	13,829	1946
1947......	5,919	1,675	2,129	99	....	†	†1,117	....	10,939	110	11,049	1947

NOTE:—Mild cured Falls not included. † Segregation as to districts not available.
* Estimated segregation. In 1945 the Silver category includes 200 tierces of Sockeyes.

KOLSTRAND MANUFACTURING CO.

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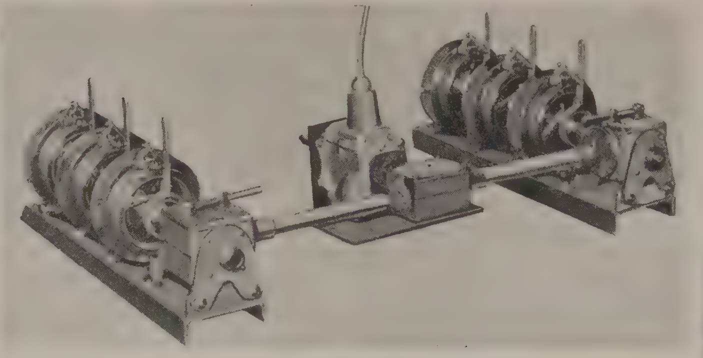
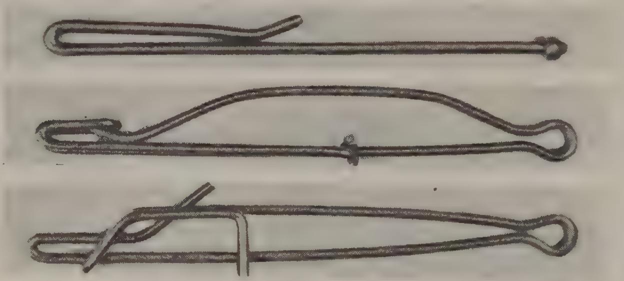
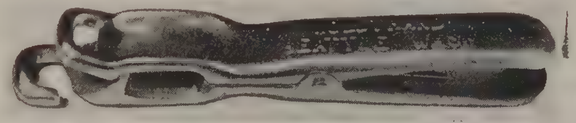
KOLSTRAND Sterling Gear Units made in 1:1, 2:1, 2½:1 and 3:1 ratios.

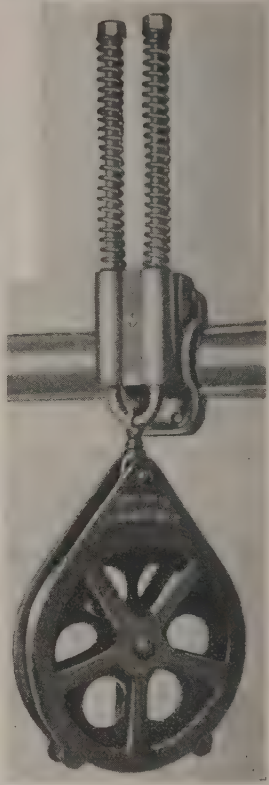

KOLSTRAND Trolling Gurdy equipped with transmission and reverse gear boxes. All bronze gurdy equipped with 1" stainless steel shaft. Oilite bearings throughout, galvanized 7" channel bases. Built to any specification as to number of spools, shaft extensions, gear boxes, etc.

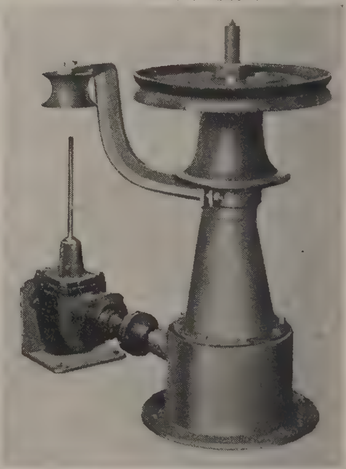

Above, from top to bottom, Three Popular KOLSTRAND Line Snaps: No. 7 Single Line Snap, No. 9 Double Line Snap and No. 9 Single Line Snap.

KOLSTRAND patented Swivel Eye Trolling Tubing Connector.

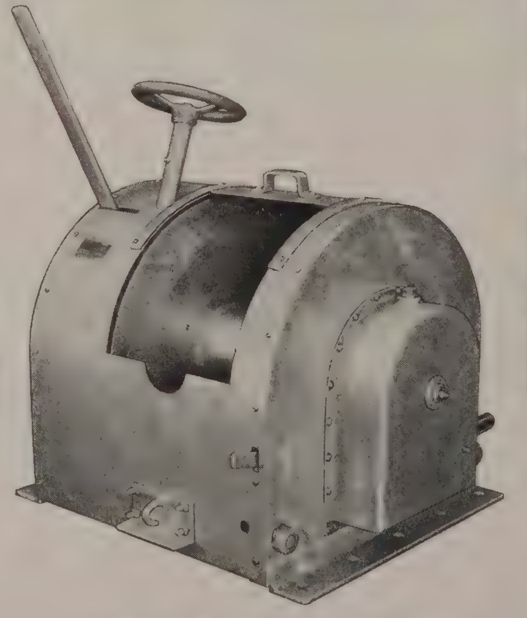
KOLSTRAND patented Solid Eye Trolling Tubing Connector.


KOLSTRAND Nickel Silver Line Stop.


KOLSTRAND Bow Line Shock Absorber and 6" KOLSTRAND Trolling Block, equipped with Oilite bushings. We also stock 4" blocks.


KOLSTRAND Halibut Gurdy . . . showing transmission hook-up. All-steel fabricated. Galvanized to resist corrosion.

A/K Indicator Block. Registers in fathoms the amount of line passing through block. Ideal for trollers and halibuters.


KOLSTRAND Anchor Winch. All-steel fabricated. Galvanized to resist corrosion. 16:1 worm gear reduction. Made in several sizes, covered and uncovered.

IF IT'S

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TROLL SALMON LANDINGS IN OREGON

1947

Columbia River		Months	Costal Ports		State Total		Oregon, Total, Both Species, Pounds
Chinook Pounds	Silver Pounds		Chinook Pounds	Silver Pounds	Chinook Pounds	Silver Pounds	
41	354	January	40	38	81	392	473
28,275		February	3,121	208	31,396	208	31,604
12,732	161	March	3,889	297	16,621	458	17,079
30,448	2,208	April	213,335	534	243,783	2,742	246,525
112,446	8,097	May	254,487	8,523	366,933	16,620	383,553
23,725	102,951	June	99,655	202,294	123,380	305,245	428,625
38,173	132,074	July	618,010	653,393	656,183	785,467	1,441,650
298,759	153,165	August	504,611	292,514	803,370	445,679	1,249,049
78,146	124,926	September	236,159	98,976	314,305	223,902	538,207
		October					
622,745	**523,936**	**Totals**	**1,933,307**	**1,256,777**	**2,556,052**	**1,780,713**	**4,336,765**

1946

	20	January	76		76	20	96
12,723		February	479	526	13,202	526	13,728
185,735		March	147	218	185,882	218	186,100
411,526		April	1,097		412,623		412,623
169,788	126	May	115,585	3,235	285,373	3,361	288,734
22,879	10,365	June	144,003	105,480	166,882	115,845	282,727
24,747	54,198	July	222,992	248,357	247,739	302,555	550,294
110,418	36,563	August	612,558	195,794	722,976	232,357	955,333
117,949	298,444	September	386,822	313,173	504,771	611,617	1,116,388
7,914	77,270	October	38,638	68,221	46,552	145,491	192,043
108	946	November	55	123	163	1,069	1,232
156	168	December		154	156	322	478
1,063,943	**478,100**	**Totals**	**1,522,452**	**935,281**	**2,586,395**	**1,413,381**	**3,999,776**

1945

		January	62	30	62	30	92
9,734		February	329	725	10,063	725	10,788
14,669		March	173	243	14,842	243	15,085
389,007	794	April	1,401		390,408	794	391,202
351,398	893	May	17,312	1,038	368,710	1,931	370,641
120,286	65,234	June	73,151	7,285	193,437	72,519	265,956
14,910	4,677	July	25,908	32,023	40,818	36,700	77,518
56,697	52,433	August	406,847	411,378	463,544	463,811	927,355
39,600	113,952	September	386,528	447,607	426,128	561,559	987,687
16,223	53,791	October	67,394	50,285	83,617	104,076	187,693
472	1,661	November	7,885	6,014	8,357	7,675	16,032
877		December	148	500	1,025	500	1,525
1,013,873	**293,435**	**Totals**	**987,138**	**957,128**	**2,001,011**	**1,250,563**	**3,251,574**

1944

141,734	1,073	April	1,274		143,008	1,073	144,081
85,648	8,018	May	493	2,536	86,141	10,554	96,695
120,085	28,213	June	110,070	96,405	230,155	124,618	354,773
38,939	23,511	July	114,383	158,914	153,322	182,425	335,747
60,595	127,074	August	345,601	471,698	406,196	598,772	1,004,968
7,125	61,044	September	213,985	330,708	221,110	391,752	612,862
3,529	37,540	October	29,288	122,878	32,817	160,418	193,235
		November	150	1,466	150	1,466	1,616
66	164	December	10		76	164	240
457,721	**286,637**	**Totals**	**815,254**	**1,184,605**	**1,272,975**	**1,471,242**	**2,744,217**

1943

93,597	11	April	13		93,610	11	93,621
21,498	638	May	67	66	21,565	704	22,269
13,566	25,599	June	13,566	25,599	27,132	51,198	78,330
3,667	23,192	July	96,095	211,206	99 762	234 398	334,160
22,380	40,274	August	103 219	165,482	125,599	205 756	331,355
2,992	34,214	September	26,450	109,031	29,442	143,245	172,687
114	1,690	October	7 939	23,429	8,053	25,119	33,172
157,814	**125,618**	**Totals**	**247,349**	**534,813**	**405,163**	**660,431**	**1,065,594**
323,769	**100,843**	**1942 Totals**	**320,766**	**926,936**	**644,535**	**1,027,779**	**1,672,314**

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"From Alaska to California"

FROZEN
FISH

Pacific fish freezing declined sharply in 1947, continuing a trend which developed in 1946, when production receded for the first time since 1939.

Limitation in 1947 was due primarily to reduced interest in fillets and miscellaneous varieties; and to acute shortage of Silver and Fall salmon for freezing.

Development of fish freezing in Alaska within the next few seasons is expected to prove one of the truly important trends in the Pacific fishing industries.

Lack of salmon, and lack of interest in fillets and miscellaneous fish, in 1947 produced a distinct recession in the amount of fish frozen on the Pacific Coast.

The pack of 91,972,312 lbs. compared with 117 million the year before and the all-time-high of 129 million in 1946. The 1945 production was 105 million.

With the exception of those three immediately preceding years, the 1947 Pacific fish freeze was heavier than in any previous season.

Little Interest Manifest In Fillets and Rockfish

One of the factors which forced-down the frozen fish figures for 1947 was the complete lack of interest in fillets of rockfish. This had been one of the heaviest items in Pacific fillet production, but the goods could scarcely be sold to the trade during 1947. It is true that Army and Navy procurement officers continued interested in rockfish fillets, but they were the only customers who showed any interest at the prices necessitated by the trawlers' demand prices for raw fish.

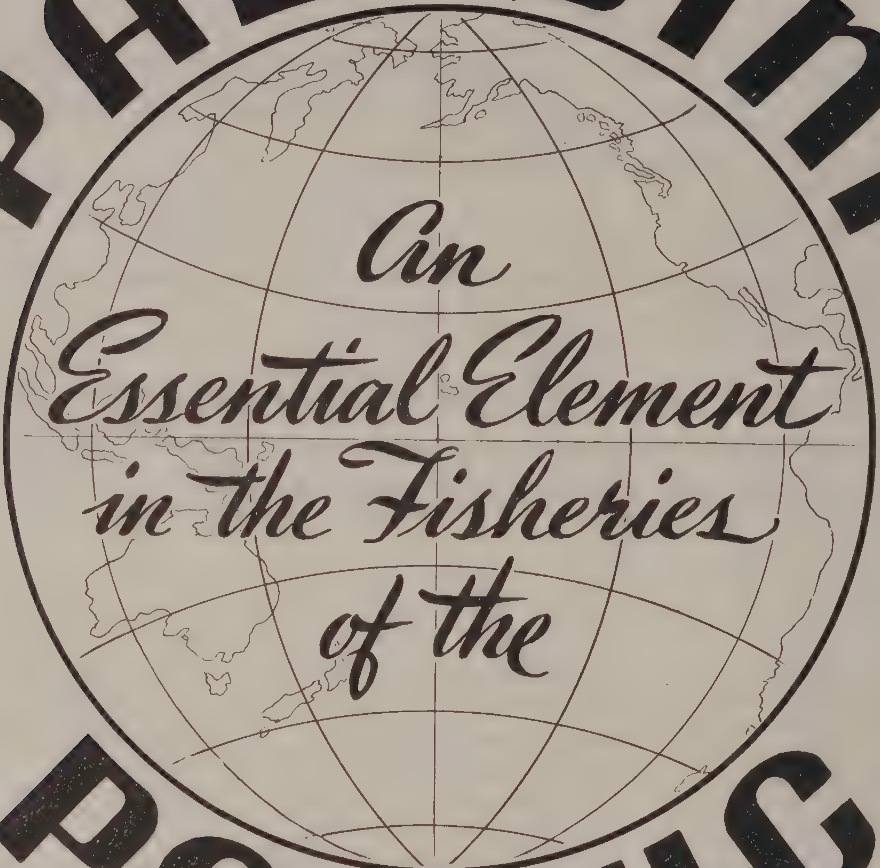
Other fillets suffered some lack of interest, although prime sole, notably petrale, Dover and English, was in good demand.

1947—PACIFIC FROZEN SHELLFISH—1947

COMPANY	LOCATION	CRAB			CLAMS, Shucked, Pounds	OYSTERS, Shucked, Pounds	SHRIMP-MEAT, Pounds	Total Pounds
		Dungeness Crabmeat, Pounds	King Crabmeat, Pounds	King Crab, frozen in Shell, Lbs.				
Alaska Fish & Farm Products	Anchorage				485			485
Booth Fisheries Corporation	Seattle					18,000		18,000
Chase Seafood Co	Everett	3,300						3,300
Columbia River Packers Association	Astoria	1,250						1,250
Deep Sea Trawlers, Inc	"Deep Sea," floating, Bering Sea		30,418	138,207				168,625
Guffy, Harry	"Chirikof," floating, Alaska Peninsula		30,000					30,000
Juneau Cold Storage Co	Juneau	12,510						12,510
Kayler-Dahl Fish Co	Petersburg	50,470					66,544	117 014
Pacific Exploration Co	"Alaska," floating, Bering Sea			50,000				50 000
Paragon Packing Co	Astoria	4,807				15,232		20,039
Parks Co., H. M.	Cordova	59,805						59,805
Petersburg Cold Storage Co	Petersburg	1,285				80,074		81,359
Portland Fish Co	Portland	4,295			6,600	1,436		12,331
Prince Rupert Fishermen's Cooperative	Prince Rupert	154			2,422		1,685	4 261
San Juan Fishing & Packing Co	Seattle				5,000			5,000
	Warrenton	30,000			20,000			50,000
Seaside Clam Co	Seaside				30,000			30 000
Sitka Cold Storage Co	Sitka	400						400
Whiz Fish Products Co	Seattle	15,000			35,000			50 000
Totals		**183,276**	**60,418**	**188,207**	**99,507**	**114,742**	**68,229**	**714,379**

NOTE:—This table is new in the PACIFIC FISHERMAN YEARBOOK. Obviously, it does not represent a full report of all shellfish frozen, but it stands as the first publication of a statistical report which we hope to make a permanent feature.

PALADINI



An Essential Element in the Fisheries of the

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Salmon for Freezing Proves Extremely Short

Perhaps the outstanding feature of the 1947 fish freezing program was the limited pack of frozen salmon. All along the line the species of salmon used for freezing were in short supply. This condition was enhanced by the keen demand of the canneries for salmon for canning.

On Puget Sound in particular the run of Fall salmon in 1947 was only a fraction of normal, while much the same condition was reflected down the Washington and Oregon Coast. The British Columbia run

OREGON OCEAN FISH 1942-1947

Year	SOLE					Halibut	Lingcod	Sablefish	Rockfish	Shark	Miscel.	**Total**
	Petrale	English	Dover	Turbot	Miscel.							
1942	3,745,146	227,793	2,308,508	13,046	2,101,706	765,541	988,211	623,776	1,715,952	1,255,619	464,815	**14,210,113**
1943	3,805,094	898,639	6,431,666	2,831,013	3,290,215	844,480	30,587	1,117,081	7,009,702	2,854,787	622,104	**29,735,368**
1944	2,019,143	1,057,701	1,593,469	700,147	1,133,372	651,255	1,208,051	568,370	11,266,874	546,817	585,232	**21,330,431**
1945	1,574,143	1,096,601	2,704,216	168,811	1,262,795	613,215	1,015,215	418,233	17,365,866	99,761	342,207	**26,661,063**
1946	2,984,092	3,950,609	3,197,988	297,708	1,411,975	816,854	1,150,803	1,016,470	10,671,012	57,683	779,793	**26,334,987**
1947	1,573,495	1,999,970	1,897,309	694,260	738,430	632,312	675,201	694,023	6,053,961	86,617	3,092,553	***18,138,131**

* Nine months' total.

Pacific Frozen Fish—1935 to 1947

District and Year	Halibut Pounds	Salmon Pounds	Steelhead Pounds	Sablefish Pounds	Misc. Pounds	Totals and Years
1936						**1936**
Alaska	7,287,861	5,284,030	24,091	834,140	88,705	13,518,827
British Columbia	9,504,340	11,320,303	234,690	1,266,555	742,043	23,062,931
Puget Sound	7,395,485	6,704,971	....	1,309,243	811,273	16,220,972
Columbia River & Coast	48,818	178,922	629,896	117,624	123,920	1,099,182
California	246,623	680,330	....	290,020	2,083,295	3,300,268
Total, 1936	**24,483,127**	**24,168,556**	**888,677**	**3,817,582**	**3,849,238**	**57,202,180**
1937						**1937**
Alaska	7,465,551	5,794,466	2,500	1,924,817	305,149	15,492 483
British Columbia	9,550,661	11 698,592	200,361	1,378,442	698,481	23,526,537
Puget Sound	8,490,747	10,121,808	....	2,314,399	1,578,453	22 505,407
Columbia River & Coast	25,000	391,000	520,996	35,000	61,253	1,033,249
California	80,000	804,000	....	311,000	1,584,040	2,779,540
Total, 1937	**25,611,959**	**28,809,866**	**723,857**	**5,964,158**	**4,227,376**	**65,337,216**
1938						**1938**
Alaska	6 904,640	7,918,897	4,274	773,787	68,305	15,669,903
British Columbia	10,870,867	12,662,933	324,000	1,329,009	987,260	26,174,069
Puget Sound	8,174,462	7,793,087	....	2,248,790	2,342,902	20,562,241
Columbia River & Coast	211,350	207,478	465,909	118,465	119,594	1,122,796
California	128,804	434,155	....	138,587	2,573,527	3,275,073
Total, 1938	**26,290,123**	**29,019,550**	**794,183**	**4,608,638**	**6,091,588**	**66,804,082**
1939						**1939**
Alaska	6,389,488	4,783,751	2,465	1,525,600	280,794	12,982,098
British Columbia	13,414,006	9,631,742	189,516	1,080,053	813,950	25,129,273
Puget Sound	7,795,768	4,488,450	....	1,887,336	1,827,266	15,998,820
Columbia River & Coast	252,692	607,100	352,884	135,347	243,600	1,591,623
California	32,807	301,956	....	407,870	3,147,932	3,890,565
Total, 1939	**27,884 761**	**19,812,999**	**544,865**	**5,036,206**	**6,313,548**	**59,592,379**
1940						**1940**
Alaska	8,310,553	6,304,064	11,413	1,824,532	682,721	17,133,283
British Columbia	13,453,612	11,347,239	237,000	1,285,915	1,317,404	27,641,170
Puget Sound	8,645,576	6,748,021	....	1,832,112	1,600,432	18,826,141
Columbia River & Coast	553,269	267,370	33,573	98,642	253,634	1,206,488
California	26,033	439,339	....	298,460	4,353,273	5,117,105
Total, 1940	**30,989,043**	**25,106,033**	**281,986**	**5,339,661**	**8,207,464**	**69,924,187**
1941						**1941**
Alaska	7,564,940	6,119,050	....	1,720,977	924,420	16,329,387
British Columbia	14,560,498	9,632,364	91,913	1,604,554	966,559	26,855,888
Puget Sound	9,440,017	7,569,858	....	1,348,723	2,345,540	20,704,138
Columbia River & Coast	602,210	178,498	1,628	118,120	761,013	1,661,469
California	100,000	462,000	....	227,000	5,965,887	6,754,887
Total, 1941	**32,267,665**	**23,961,770**	**93,541**	**5,019,374**	**10,963 419**	**72,305,769**
1942						**1942**
Alaska	8,720,056	7,908,717	8,606	4,851,974	361,554	21,850,907
British Columbia	16,571,639	12,150,338	18,046	1,697,327	3,541,929	33,979,279
Puget Sound	6,815,874	5,608,307	....	1,221,946	3,066,177	16,712,304
Columbia River & Coast	216,684	563,780	222,684	186,710	1,556,008	2,745,866
California	10,000	25,000	....	26,000	8,460,332	8,521,332
Total, 1942	**32,334,253**	**26,256,142**	**249,336**	**7,983,957**	**16,986,000**	**83,809,688**
1943			**Fillets**			**1943**
Alaska	11,068,724	9,114,694	....	3,986,438	825,505	**24,995,361**
British Columbia	10,397,337	13,313,250	60,076	2,320,559	2,667,881	**28,759,103**
Puget Sound	4,250,010	2,530,755	429,394	860,577	6,846,616	**14,917,352**
Columbia River & Coast	161,452	956,719	3,958,405	359,050	2,311,503	**7,747,129**
California	5,000	15,000	....	20,000	7,571,674	**7,611,674**
Total, 1943	**25,882,523**	**25,930,418**	**4,447,875**	**7,546,624**	**20,223,179**	**84,030,619**
1944			**Fillets**			**1944**
Alaska	19,214,203	10,753,715	....	5,413,503	1,892,846	**37,274,267**
British Columbia	12,574,036	14,793,573	572,315	1,856,055	3,763,055	**33,559,190**
Puget Sound	5,237,071	4,264,315	2,893,179	2,305,848	3,777,952	**18 478 365**
Columbia River & Coast	628,285	1,917,542	5,733,930	178,742	758,745	**9,217,244**
California	15,000	19,000	....	23,000	7,007,484	**7,064,484**
Total, 1944	**37,668,595**	**31,748,145**	**9,199,424**	**9,777,304**	**17,200,082**	**105,593,550**
1945			**Fillets**			
Alaska	19,353,649	13,374,086	....	5,955,388	3,396,849	**42,079,972**
British Columbia	10,290,942	19,931,674	1,745,520	1,254,623	5,890 142	**39,112 910**
Puget Sound & Wash Coast	6,728,420	9,030,403	4,193,268	1,071,796	5,673,660	**26,697,547**
Columbia River & Ore. Coast	506,242	2,655,787	2,176,400	270,634	8,670 915	**14,279,978**
California	....	....	....	....	7,142,638	**7,142,638**
Total, 1945	**36,879,253**	**44,991,950**	**8,115,197**	**8,552,441**	**30,774,204**	**129,313,045**
1946			**Fillets**			**1946**
Alaska	14,966,616	12,036,956	30,000	4,519,989	2,075,530	**33,629,091**
British Columbia	12,782,294	14,384,544	1,972,000	1,778,855	11,486,110	**42,403,803**
Puget Sound & Wash. Coast	8,050,947	6,388,388	3,895,400	1,714,185	2,807,240	**22,856,160**
Columbia River & Ore. Coast	555,884	4,373,849	4,511,986	416,003	3,147,126	**13,004,848**
California	585,807	852,370	252,064	182,810	3,394,719	**5,267,770**
Total, 1946	**36,941,548**	**38,036,107**	**10,661,450**	**8,611,842**	**22,910,725**	**117,161,672**
1947 ′			**Fillets**			**1947**
Alaska	20,638,301	10,197,755	4,597	886,535	383,473	**32,110,661**
British Columbia	14,930,795	13,583,850	1,057,828	729,492	6,357,106	**36,659,071**
Puget Sound & Wash. Coast	4,933,377	4,241,310	1,658,152	921,204	1,004,330	**12,758,373**
Columbia River & Ore. Coast	618,266	1,272,508	1,681,488	60,786	985,697	**4,618,745**
California	1,173,863	632,681	52,876	35,895	3,930,147	**5,825,462**
Total, 1947	**42,294,602**	**29,928,104**	**4,454,941**	**2,633,912**	**12,660,753**	**91,972,312**

NOTE.—Since 1942 Steelheads have been combined with salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported.

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EARDLEY FISH & FILLET CO., Inc.

Teletype SE. 125 **Pier "62", Seattle 1, Washington** **Phone SEneca 0755**

1947—PACIFIC FROZEN FISH—1947

Company	Location	Halibut, Pounds	Salmon, Pounds	Sablefish, Pounds	Miscellaneous Pounds	Fillets, All Varieties	Total Pounds
ALASKA							
Alaska Coast Fisheries Co.	Juneau	857,019	788,344	59,610	36,376		**1,741,349**
	Pelican	355,989					**355,989**
	Sitka	580,996	111,242		1,774		**694,012**
Alaska Fish & Farm Products, Inc.	Anchorage	150,567	167,482			2,300	**320,349**
Booth Fisheries Corp.	Juneau	400,000	75,000				**475,000**
	Ketchikan	100,000					**100,000**
	Pelican	510,000	485,000		10,000		**1,005,000**
	Petersburg	70,000					**70,000**
Chase Fish Corp.	Petersburg	146,821					**146,821**
Juneau Cold Storage Co.	Juneau		381,451		16,047		**397,498**
Kavler-Dahl Fish Co.	Petersburg	634.313		140,027			**774.340**
Ketchikan Cold Storage Co.	Ketchikan	2,382,811	1,092,408	57,157	17,000		**3,549,376**
McCallum-Legaz Fish Co.	Ketchikan and Sitka	799,000	123,000				**922,000**
New England Fish Co.	S. E. Alaska	3,654,000	820,000	29,000			**4,503,000**
Oxenberg Bros., Inc.	Ketchikan	244,763	630,228	24,170			**899,161**
	Pelican	181,490	10,907				**192,397**
	Wrangell	6,622	11,921		524		**19,067**
Parks Co., H. M.	Cordova	222,956	28,324				**251,280**
Pelican Cold Storage Co.	Pelican	230,709	549,189	160,003	177,363		**1,117,264**
Petersburg Cold Storage Co.	Petersburg	581,333	228,774	81,024	110,783		**1,001,914**
Phillips, E. C.	Ketchikan	921,426	294,364	6,673			**1,222,463**
San Juan Fishing & Packing Co.	Alaska	1,225,000	665,000	85,000			**1,975,000**
Sebastian-Stuart Fish Co.	Juneau	316,109	796,448	3,868	78		**1,116,503**
	Pelican	208,456	732,346	155	3,704		**944,661**
	Sitka	102,224	286,711				**388,935**
	Tyee	88,246	46,954		1,205		**136,405**
	Wrangell	112,500	45,362	418	2,176		**160,456**
Sitka Cold Storage Co.	Sitka	488,810	377,523		634	2,297	**869,264**
Stikine Fish Co.	Wrangell	160,963	117,404				**278,367**
Vita Food Products, Inc.	Petersburg		27,941	38,643			**66,584**
	Sitka	63,597	144,287				**207,884**
Washington Fish & Oyster Co.	Port Williams	1,696,182					**1,696,182**
Whiz Fish Products Co.	Juneau	235,000	20,000	80,000			**335,000**
	Ketchikan	220,000	450,000	1,000			**671,000**
	Pelican	750,000	150,000	35,000			**935,000**
	Petersburg	450,000	195,000	80,000			**725,000**
	Sitka	75,000					**75,000**
	Wrangell	100,000		2,000			**102,000**
Wrangell Cold Storage Co.	Wrangell	254,149	30,145	2,787	5,809		**292,890**
Miscellaneous	Cordova	881,250	65,000				**946,250**
	La Touche	180,000					**180,000**
	Floating		250,000				**250,000**
Total Alaska		**20,638,301**	**10,197,755**	**886,535**	**383,473**	**4,597**	**32,110,661**
BRITISH COLUMBIA							
British Columbia Packers, Ltd. (Includes subsidiary companies)	Vancouver, Steveston, Victoria, Prince Rupert, etc.	4,288,162	6,600,000	151,000	4,900,000		**15,939,162**
Canadian Fishing Co., Ltd., The	Butedale, Vancouver, Prince Rupert, etc.	3,635,000	5,472,800	130,000	1,434,000	905,000	**11,576,800**
Phillips, E. C.	Prince Rupert	511,838					**511,838**
Prince Rupert Fishermen's Co-op. Assn.	New Westminster	781,709					**781,709**
	Prince Rupert	4,739,086	1,511,050	448,492	23,106	152,828	**6,874,562**
San Juan Fishing & Packing Co.	Prince Rupert and Vancouver	975,000					**975,000**
Total British Columbia		**14,930,795**	**13,583,850**	**729,492**	**6,357,106**	**1,057,828**	**36,659,071**
PUGET SOUND AND WASHINGTON	**COAST**						
Booth Fisheries Corp.	Seattle	750,000	725,000		25,000	150,000	**1,650,000**
Chase Fish Corp.	Seattle	101,762	64,670	3,780	8,735	5,265	**184,212**
Chase Seafood Co.	Everett	10,000	62,000	2,800	1,600	8,000	**84,400**
Deep Sea Products Co.	Aberdeen					227,227	**227,227**
Eardley Fish & Fillet Co.	Seattle	149,000	161,000	93,000	24,000	899,000	**1,326,000**
Laurence Co., J. E.	Seattle	70,000					**70,000**
McCallum-Legaz Fish Co.	Seattle	201,000	37,000	56,000	8,000	10,000	**312,000**
New England Fish Co.	Everett and Seattle	210,000	345,000				**555,000**
Oxenberg Bros., Inc.	Seattle	152,130	8,229	137,225	7,915	35,485	**340,984**
Portland Fish Co.	Seattle		163,200				**163,200**
San Juan Fishing & Packing Co.	Seattle	1,080,000	515,000	160,000	135,000	170,000	**2,060,000**
Sebastian-Stuart Fish Co.	Seattle	360,178	80,347	2,635	62,696	89,550	**595,406**
Washington Fish & Oyster Co.	Seattle	440,410	512,270	161,435	38,655	33,625	**1,186,395**
Whiz Fish Products Co.	Seattle	500,000	300,000	180,000	115,000	30,000	**1,125,000**
West Coast Fish Co.	Aberdeen		60,000				**60,000**
Miscellaneous		908,897	1,207,594	124,329	577,729		**2,818,549**
Total Puget Sound and Washington	**Coast**	**4,933,377**	**4,241,310**	**921,204**	**1,004,330**	**1,658,152**	**12,758,373**
COLUMBIA RIVER AND OREGON	**COAST**						
Columbia River Packers Assn.	Astoria	224,632	146,706	250	164,217	300,613	**836,418**
	Newport	37,018			1,093	93,510	**131,621**
Columbia River Salmon Co.	Astoria	58,405		270			**58,675**
Feller, Charles	Coos Bay		6,000		10,000	10,000	**26,000**
Laurence Company, J. E.	Portland		20,000		25,000		**45,000**
New England Fish Co. of Oregon	Astoria and Kalama	52,000	465,000	36,000	90,000	1,000,000	**1,643,000**
Paragon Packing Co.	Astoria	65,020	76,965	11,161		11,180	**164,326**
Portland Fish Co.	Portland	84,064	203,277	2,000	120,054		**409,395**
San Juan Fishing & Packing Co.	Warrenton	60,000	210,000	10,000	243,500	251,000	**774,500**
Union Fishermen's Coop. Packing Co.	Astoria	37,127	11,633	1,105	33,382	11,105	**94,352**
Yaquina Bay Fish Co.	Newport		132,927		298.451	4,080	**435.458**
Total Columbia River and Oregon	**Coast**	**618,266**	**1,272,508**	**60,786**	**985,697**	**1,681,488**	**4,618,745**
CALIFORNIA							
Total California		**1,173,863**	**632,681**	**35,895**	**3,930,147**	**52,876**	**5,825,462**
GRAND TOTAL		**42,294,602**	**29,928,104**	**2,633,912**	**12,660,753**	**4,454,941**	**91,972,312**

NOTE:—Amounts of fish shown in this table as frozen in custom cold storages represent the quantities of fish frozen in the plants stated and not reported elsewhere in the table under the names of the principals for whom they were frozen. These amounts should not be taken as representing the full amounts of fish frozen in these custom storages. Such total amounts of Alaska custom freezings are shown in a separate table in this issue. Similarly, amounts of fish reported by principals as frozen at Prince Rupert have been deducted from the totals of firms operating the plants.

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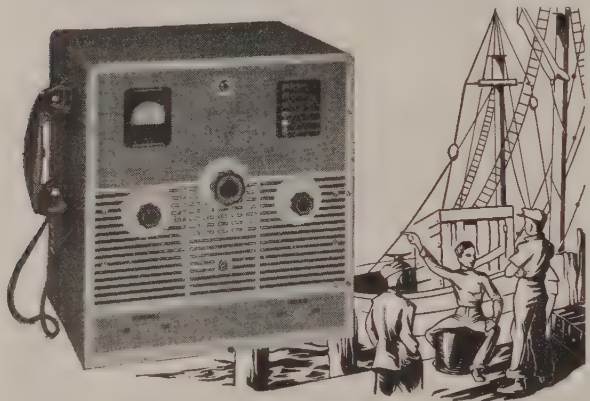

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was much more nearly normal, but the pack in the province showed sharp decline. This was due in no small part to the fact that much salmon was shipped fresh to Puget Sound for freezing and canning.

1947 Halibut Freezing Heaviest in History

With 42,294,602 lbs. of halibut frozen in 1947, the season established a new record for this species. Heaviest previous pack was in 1944 when 37,668,000 lbs. of halibut went into freezer.

Reason for the exceptionally heavy freezing of 1947 did not lie in any increase in production—which in fact was less than the

1947—ALASKA FROZEN FISH HOLDINGS—1947

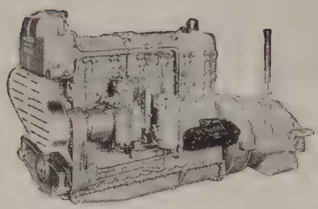
(Includes American Caught Fish Frozen in Bond in British Columbia)

VARIETY	DEC., 1946	JANUARY, 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Poupds	Pounds	Pounds
Bait and Animal Food	230,000	255,000	252,400	1,626,200	2,463,900	1,906,300	1,409,900	655,100	222,400	433,900	422,400	587,400
Cod, rock or red	496,038	370,929	223,033	98,145	40,971	37,312	37,471	38,973	21,543	18,664	11,185	9,588
Cod, true	936	9				985	985	985	985			
FILLETS:												
Cod, rock or red	9,555	1,275	1,275				312			985		
Cod, true												
Lingcod	12,221	510	510									
Other fillets	334	334	334			300	11,702				798	8,938
Halibut	5,996,323	3,817,818	1,734,005	290.734	27,258	4,432,293	7,304,643	11,112,248	13,968,052	10,464,162	6,548,370	5,569,479
Lingcod	160,366	121.265	93,608	40,643	25,191	22,872	20,682	26,661	23,623	25,080	9,220	7,836
Sablefish	2,894,939	2,306,987	1,321,578	1,048,029	773,728	685,696	583,469	739,759	704,548	609,182	609,632	565,167
SALMON:												
King or Chinook	886,781	744,725	442,532	173,144	29,332	136,668	765,494	1,205,342	1,294,672	1,173,847	738,628	675,553
Silver or Coho	3,261,655	2,388,911	1,589,135	373,389	42,700	43,488	148,988	1,605,952	3,001,883	3,182,794	1,696,547	1,443,236
Fall or Chum	2,643,994	2,203,657	1,407,253	782,424	579,223	460,604	1,340	50,973	476,486	409,474	461,586	388,092
Pink	118,274	85,267	59,836	19,200	1,324	1,324	109	18,220	126,568	70,747	37,243	15,385
Steelhead	11,252	5,842	582	582	175	1,683		1,524	2,690	369	244	244
Unclassified	271,439	230,509	174,855	105,813	6,965	6,916	36.168	156,719	236,250	377,367	392,192	377,837
Smelt												
Unclassified	64,710	62,789	47,856	39,487	14,146	12,530		2,033	3,987	5,875	6,007	
Total	**17,058,817**	**12,595,827**	**7,348,792**	**4,597,790**	**4,004,913**	**7,748,971**	**10,321,263**	**15,614,489**	**20,083,687**	**16,772,446**	**10,934,052**	**9,648,755**

WASHINGTON TRAWL LANDINGS -- 1930 TO 1947

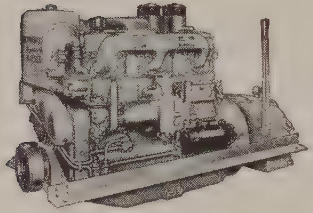
(Data cover foodfish only.)

YEAR	SOLE AND FLOUNDERS	"COD"	LINGCOD	SABLEFISH	ROCKFISH	MISCELLANEOUS	TOTAL	YEAR
1930	339,932	26,318			24	32,419	**393,693**	1930
1931	323,064	30,269				3,674	**357,007**	1931
1932	281,302	46,512			1,000	1,374	**330,198**	1932
1933	296,517	59,965				5,200	**361,632**	1933
1934	247,684	25,405	13,454		8,313	6,116	**300,972**	1934
1935	2,575,998	185,786	285,759		63,284	23,743	**3,134,570**	1935
1936	4,791,994	406,361	237,229		81,301	22,650	**5,539,535**	1936
1937	4,265,491	441,130	235,431		72,640	14,919	**5,029,611**	1937
1938	5,036,852	456,814	286,439		107,163	21,952	**5,909,220**	1938
1939	4,659,122	354,805	197,982		112,395	231,614	**5,555,918**	1939
1940	5,917,096	518,705	247,007		248,711	946,788	**7,873,307**	1940
1941	7,977,576	457,253	199,128		93,286	582,295	**9,309,538**	1941
1942	9,575,018	1,172,811	3,845,055	118,406	1,034,417	717,279	**16,462,936**	1942
1943	13,250,936	996,963	4,859,693	778,451	4,464,702	1,015,394	**25,366,139**	1943
1944	7,806,664	623,151	4,254,298	1,429,682	5,132,233	279,898	**19,516,926**	1944
1945	9,185,903	2,417,053	4,177,839	529,507	16,093,712	211,068	**32,614,192**	1945
1946	9,709,656	3,701,647	3,193,436	628,756	10,094,207	93,705	**27,421,407**	1946
1947	9,901,605	3,082,112	3,230,907	266,828	6,298,452	58,054	**22,837,958**	1947



HM-600—This model has been proved in every type of marine installation in its horsepower range during the last 15 years. Its maximum rating is 150 hp at 1800 rpm, approximate dimensions are 83″ x 31″ x 43″. The supercharged Model HMS-600 is rated at 200 hp at 1800 rpm.

* * *



NHMS-600—This supercharged marine engine contains such features as a new heat exchanger and oil cooler combination, provisions for mounting special marine accessories and an engine mounting that simplifies installation. Its maximum rating is 275 hp at 2100 rpm, approximate dimensions are 93″x63″x 36″. The non-supercharged NHM-600 is rated at 200 hp at 2100 rpm.

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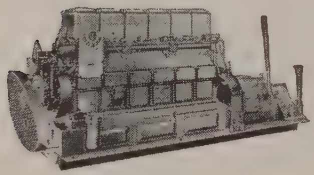

LM-600—This heavy-duty, medium speed engine has given competent, dependable service to hundreds of boat owners on the Atlantic, Pacific and Gulf coasts and along the inland waterways. Its maximum rating is 250 hp at 1000 rpm, approximate dimensions are 125″ x 47″ x 57″.

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year before as result of more rigid application of the quota closures.

Behind the big pack lay two factors: rate of production, which was sharply accelerated, making for the shortest season in history, with a resultant extension of the closed-season, frozen-marketing period. The second element was the idleness of the Seattle halibut fleet during all the Area 2 season and most of that in Area 3. This strike resulted from a disagreement between the vessel owners and fishermen, and saw an unusually heavy proportion of the halibut delivered in British Columbia and Alaska ports. This naturally brought

1947—OREGON FISH FREEZINGS—1947

VARIETY	DECEMBER 1946	JANUARY 1947 Pounds	FEBRUARY Pounds	MARCH Pounds	APRIL Pounds	MAY Pounds	JUNE Pounds	JULY Pounds	AUGUST Pounds	SEPTEMBER Pounds	OCTOBER Pounds	NOVEMBER Pounds	Total Pounds
Bait and Animal Food	31,072	17,192	10,940	62,953			425	4,500			1,400	1,411	129,893
Cod, rock or red	14,435	5,780	43,846	13,058	36,762	22,567	10,186			270	35	100	147,039
Cod, true						850							850
Fillets:													
Cod, rock or red	150	60		2,685	18,495	25,205	4,975	75,155	2,520	6,890	11,730	52,060	199,925
Cod, true						1,415	245	1,250	995	860		170	4,935
Flounder			490	115		12,245	1,615	175	5,670	8,220	7,065	9,555	45,150
Lingcod	295				240	2,140	935	2,460	1,760	5,485	610	1,340	15,265
Mackerel													
Sole: Dover	1,575					14,540	85,030	224,485	63,870	82,070	43,495	2,595	517,660
English	385		180	15	15,411	45,765	12,040	37,535	66,915	36,605	11,720	19,805	246,376
Petrale			100	115	6,510	59,025	11,500	126,750	22,210	38,805	6,740	10,825	282,580
Rex								700					00
Other		105		1,295		80,665	7,675	91,965	16,540	22,035	8,635	5,160	234,075
Other fillets						60	70	2,120	1,160	1,750	2,570	805	8,535
Flounders, etc.						24,410	490						24,900
Halibut						159,047	248,960	88,995	113,942	775	933	60	612,712
Herring, sea										9,930			9,930
Lingcod	6,151	80	1,230		870	4,563	615	8,196	1,315	5,976	2,250	8,660	39,906
Mackerel		185	825			185							1,195
Sablefish	7,987					2,041	8,258	9,907	1,357	20,255	40,570	10,400	100,775
SALMON:													
King or Chinook	5,727		1,000	250	690	6,252	720	4,192	308,741	53,034	11,556	1,659	393,821
Silver or Coho	31,165							8,389	47,565	24,240	160,010	21,017	292,386
Fall or Chum	26,287									8	8,658	25,772	60,725
Pink								100					100
Steelhead	9,032					285	150	5,477	9,389	24,937	4,655	2,118	56,043
Unclassified	13,433							27,554	61,693	436,308	81,456	9,473	629,917
Shad						58,349	85,656	9,962	61			180	154,208
Shad roe						3,680	2,185	1,300					7,165
Smelts			6,943	28,183			289	200	940		130		36,685
Tuna								4,444,090	2,051,390	918,587	23,755		7,437,822
Unclassified	355			355	1,178	12,392	11,488	24,979	45,695	29,104	11,305	6,892	143,743
Total	**148,049**	**23,402**	**65,554**	**109,024**	**80,156**	**535,681**	**493,507**	**5,200,436**	**2,823,728**	**1,726,144**	**439,278**	**190,057**	**11,835,016**
SHELLFISH													
Clams and clam meat	12		6,957	29,837	16			145		6,119		48	34,134
Crabs and crabmeat	70	985	338	305	50	17,040	900	830		51,821	715	1,385	74,439
Lobster tails, spiny	600			25	1,000	7,488				430	50	1,080	10,673
Oysters		174	324		1,158	600						408	2,664
Shrimp and Shrimpmeat					150			135		100			385
Squid													
Other													
Total	**682**	**1,159**	**7,619**	**21,167**	**2,374**	**25,128**	**900**	**1,110**		**58,470**	**765**	**2,921**	**122,295**
Total Fish and Shellfish	**148,731**	**24,561**	**73,173**	**130,191**	**82,530**	**560,908**	**494,407**	**5,201,546**	**2,823,728**	**1,784,614**	**440,043**	**192,978**	**11,957,311**

1947—Alaska Custom Cold Storage Freezings—1947

COMPANY	LOCATION	HALIBUT Pounds	SALMON Pounds	FILLETS Pounds	SABLEFISH Pounds	MISCELLANEOUS Pounds	Grand Total Pounds
Junea Cold Storage Co.	Juneau	2,891,346	1,865,243		147,017	52,501	4,956,107
Ketchikan Cold Storage Co.	Ketchikan	4,151,000	2,582,000		89,000	17,000	6,839,000
Pelican Cold Storage Co.	Pelican	2,416,644	1,927,442		195,158	177,363	4,716,607
Petersburg Cold Storage Co.	Petersburg	1,684,154	451,715		199,667	110,783	2,446,319
Sitka Cold Storage Co.	Sitka	2,557,624	1,092,763	2,297		1,034	3,653,718
Wrangell Cold Storage Co.	Wrangell	634,234	204,832		5,205	8,509	852,780
Totals		**14,335,002**	**8,123,998**	**2,297**	**636,047**	**367,190**	**23,464,531**

NOTE:—Data in this table represents fish frozen in Alaska custom cold storages on the accounts of customers. These amounts are included in the larger table published herewith, but largely under the names of the firms for which the fish was frozen.

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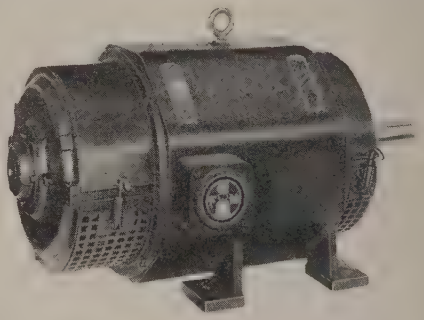

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MISHAWAKA
Power Transmission Equipment

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INDUSTRIAL SUPPLY STORE
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about an into-freezer movement exceeding normal.

With 20,638,000 lbs. of halibut frozen, Alaska accounted for nearly half of the total production of this species, British Columbia following with 14,930,000 lbs., and Puget Sound trailing far behind with 4,933,000 lbs.

Columbia River and Puget Sound Packs Down

Sharpest restriction of frozen fish production in 1947 came in the Puget Sound and Columbia River areas, plus their coastal provinces.

The Puget Sound pack of 12,758,000 lbs. in 1947 was down more than 10 million pounds from 1946 figures;

1947—CALIFORNIA FISH FREEZING—1947

SPECIES	DEC. 1946	JAN. 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Bait and Animal Food	41,721	61,767	31,777	2,208	14,540	65,877	69,053	40,000	72,678	54,147	43,122	19,552	**516,442**
FILLETS:													
Cod, true					355		705		675	5,000			**6,735**
Flounder (incl. Sole)	170	840		280	800	2,600	9,053	1,733	4,101	4,820	4,831	14,362	**43,590**
Lingcod					611	220							**831**
Mackerel			1,720										**1,720**
Other Fillets	33,599	2,805	5,312		13,581	6,513	7,801						**69,611**
Flounders, etc.	774		4,000	823		2,603	7,828	6,845	9,018	1,300		218	**33,409**
Halibut			32,025			227,179		451,427		456,812	75	6,345	**1,173,863**
Mackerel		2,453	8,869	940	390	4,275	5,090	2,140	8,399	7,953	13,136	4,610	**58,255**
Sablefish				396		900	770	7,793	1,160	1,750	2,570	20,556	**35,895**
SALMON:													
King or Chinoook						4,266		31,420	28,602	67,455	6,551	2,036	**140,330**
Silver or Coho		400					10,044	118,965	33,840	38,894	227,610	39,160	**468,913**
Fall or Chum											7,862		**7,862**
Pink								133		15,443			**15 576**
Unclassified									71,476	138,044	1,462	840	**211,822**
Shad						14,282	1,546						**15,828**
Shad roe						975	98						**1 073**
Smelt	1,475	1,200			5,904						700	310	**9,589**
Tuna			10,884		2,411	942			329,645	168,288	5,382	379	**517,931**
Unclassified	111,179	44,724	278,373	116,903	117,840	391,937	326,421	485,282	324,191	421,362	235,338	159,079	**3,012 629**
Total Fish	**188,918**	**114,189**	**372,960**	**121,550**	**156,432**	**722,569**	**438,409**	**1,145,738**	**883,785**	**1,331,268**	**548,639**	**267,447**	**6,341,904**
Shellfish:													
Clams and clam meat								200				50	**250**
Crabs and crab meat	1,825	5,495	1,105	9,390	14,140	22,096	5,569	4,010		300	400	652	**64,982**
Lobster tails, spiny	44,537	78,079	89,271	40,188			2,000	5,600	12,385	2,865	16,100	12,802	**303,827**
Oysters	1,170	840		2,814	6,512	2,560	800	2,251		152		104	**17,203**
Shrimp and shrimp meat		20,238	192,114	170,618	128,070	36,310	62,764	28,532	71,868	70,953	111,204	93,208	**985,879**
Squid	88,040	4,410	8,230		78,365	1,094	37,587	46,800	42,400	109,184	159,640	31,972	**607,722**
Other	80			460	1,925	7,488	3,045	5,006	1,097		200		**18,301**
Total Shellfish	**135,652**	**109,062**	**290,720**	**223,470**	**229,012**	**69,548**	**110,765**	**92,399**	**127,750**	**183,454**	**287,544**	**138,788**	**1,998,164**
Total Fish and Shellfish	**324,570**	**223,251**	**663,680**	**345,020**	**385,444**	**792,117**	**549,174**	**1,238,137**	**1,011,535**	**1,564,722**	**836,183**	**406,235**	**8,339,238**

FILLET IMPORTS TO U. S. 1946 AND 1947

COUNTRY	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds
Canada	3,255,860	1,305,054	2,468,588	1,069,172	3,196,364	1,291,972	3,823,459	1,260,631	3,082,041	2,144,090	3,808,047	1,767,889
Newfoundland	258,961	255,510	395,320	258,700	382,766	592,360	334,190	339,910	318,588	270,900	435,405	271,050
Iceland		102	601,100	89,300	1,816,350	495,000		287,000	245,394		100,000	73,070
Norway							1,500		256			
Total Pounds	**3,514,821**	**1,560,646**	**3,465,008**	**1,417,172**	**5,395,480**	**2,379,332**	**4,159,149**	**1,887,541**	**3,646,279**	**2,414,990**	**4,343,452**	**2,112,009**

COUNTRY	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		TOTAL	
	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds	1946 Pounds	1947 Pounds
Canada	4,417,707	1,784,195	2,116,742	1,624,608	3,001 393	3,157,339	6,217,738	4,199,722	2,212,551	2,590,065	**37,600 490**	**22,194,737**
Newfoundland	713,710	362,720	1,129,871	309,060	312,685	1,259,861	643,820	1,020,170	499,879	814,109	**5,416,195**	**5,754 850**
Iceland	245,340		10,000	119 250				1,516,160	304,000		**3,322,184**	**2,579,882**
Norway											**1,756**	
Sweden					14						**14**	
Total Pounds	**5,376,757**	**2,146,915**	**3,247,613**	**2,052,918**	**3,314,092**	**4,417,200**	**6,861,558**	**6,736,052**	**3,016,430**	**3,404,674**	**46,340,625**	**30,529,469**

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while the Columbia River and Oregon Coast, with 4,618,000 lbs. frozen in 1947, made less than half the 1946 pack of 13,000,000 lbs.

New Alaska Storages Get Substantial Packs

The newer and more distant Alaska cold storage plants came in for a substantial share in the 1947 production. The Parks and Balestrieri plants at Cordova, operating for their first full season, handled more than a million pounds of halibut; while the LaTouche plant had substantial production.

The Aleutian Cold Storage Co. plant at Sand Point, in the Shum-

San Pedro-Santa Monica Area Fresh Fish Landings

Species	November 1946	December 1946	January 1947	February	March	April	May	June	July	August	September	October	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Abalone									*		1,575	16,275	**17,850**
Anchovy		570	300	10,939	41,589	9,345	32,599	15,344		7,436	62,422	30,617	**211,161**
Barracuda	138,006	73,810	31,322	90,083	125,056	165,542	159,062	141,766		99,326	64,324	69,719	**1,158,016**
Cabrilla	18,033	31,067	3,645	2,885	355						11,607		**67,592**
California Halibut	40,788	39,742	12,309	53,008	50,540	41,823	25,920	15,851		20,033	11,889	20,288	**332,191**
Corbina													
Grouper	2,419	8,358	1,873	1,531	2,288			550			1,115		**18,134**
Grunion	130										115		**245**
Kingfish	7,024	6,044	14,265	14,428	18,054	20,485	15,508	6,940		2,240	3,780	13,595	**122,363**
Lingcod	158												**158**
Livers	546	1,036	299	1,606	899	921	107			613			**6,027**
Mackerel	797,323	1,707,940	497,049	267,202	96,843	58,340	70,055	75,034		172,844	1,437,975	2,552,089	**7,732,694**
Perch	734	7,448	9,127	16,567	8,343	12,895	6,400			895	7,740	9,962	**80,111**
Pilchards	511,377	191,584	56,023	26,814	15,057	37,510	34,490	1,878		63,717	34,576	332,182	**1,305,208**
Pompano	3,008	8,176	5,015	14,041	6,306	704		430		2,163	1,222		**41,065**
Rock Bass	3,655	6,739	954	1,541	11,562	8,066	8,995	8,687		2,675	1,334	2,834	**57,042**
Rockfish	3,581	12,149	22,461	34,318	23,314	21,567	20,017	19,976		1,502	2,020	2,838	**163,743**
Sculpin	839	3,180	2,622	3,182	6,456	11,668	7,315	17,467		11,816	9,329	3,172	**77,046**
Seabass, Black	28,258	51,768	2,864	7,122	14,594	1,000	1,278	4,543		1,917	4,559	1,394	**119,297**
Seabass	2,386	1,750	143	13,177	6,136	25,030	49,551	75,609		59,851	85,647	52,542	**371,822**
Shark	10,718	10,414	6,500	17,260	19,436	57,533	24,509	19,496		19,278	8,482	7,250	**200,876**
Smelt	6,500	5,830	12,455	3,659	2,622	1,565	2,238	6,312		3,149	5,250	24,641	**74,221**
Sheepshead	20,762	29,743	31,652	11,029	4,704	3,021	3,889	2,325		428	3,693	5,717	**116,963**
Spanish Mackerel	16,333	17,781	15,051	13,497	23,534	11,310	100	11,968		36,634	79,176	13,845	**239,229**
Spiny Lobsters	82,297	92,240	34,271	11,600	1,914							52,126	**274,448**
Squid		2,660	2,550	9,100	3,475			5,805		325	460		**24,375**
Swordfish	10,196							191		17,894	45,089	41,483	**114,853**
Tuna: Albacore	3,383							1,366		40,441	12,035	1,681	**58,906**
Bluefin	425			148,725	206,295	21,855	8,436	6,778		1,073,082	1,612,561	51,757	**3,129,914**
Bonito	1,584	2,060	7,896	1,611	612	354	1,245			1,768	2,903	1,001	**21,034**
Skipjack						(a) 23,246		(a) 4,638			4,416		**32,300**
Whitefish	420	1,070	1,884	2,177	1,195	557	665	856				138	**8,962**
Yellowtail	20,134	5,525	6,066	15,501	3,008	26,856	2,833	11,711		13,809	8,869	11,072	**125,384**
Miscellaneous	5,843	6,936	10,893	10,480	7,251	7,934	12,617	13,002		9,704	5,830	5,871	**96,361**
Total	**1,736,860**	**2,325,620**	**789,489**	**803,083**	**701,438**	**569,127**	**487,829**	**468,523**		**1,663,540**	**3,529,993**	**3,324,089**	**16,399,591**

* Figures for July were not available as result of temporary closure of the Terminal Island Market News Service office due to curtailment of Fish and Wildlife Service funds.

(a) Yellowfin tuna.

Salmon and Halibut Freezing in Canada by Months

Months	1944		1945		1946		1947	
	Salmon, Pounds	Halibut, Pounds	Salmon, Pounds	Halibut, Pounds	Salmon, Pounds	Halibut, Pounds	Salmon, Pounds	Halibut, Pounds
January	*	*	419,230	394,811	18,904	183,346	271,572	332,759
February	366,346	273,600	95,244	222.238	520,509	344,076	221,343	217,645
March	199,226	348,847	360,661	240,413	*	*	270.066	358,022
April	34,334	86,289	19,945	220,018	42,216	10.869	41,620	167.994
May	35,166	314,432	158,305	3,489,342	114,952	4,558,350	342,709	6,059,714
June	799,534	5,465,098	719,710	3,408,109	1,213,867	3,798,912	921,265	4,782,689
July	1,736,542	3,232,596	2,168,804	806,167	2,131,929	849,659	2,328,428	2.186,016
August	2,902,804	802,380	3,789,008	616,499	3,098,060	1,415,986	2,658,952	2,566,073
September	3,602,202	499,926	3,996,186	809,728	3,709,790	335,440	2,628,493	287,595
October	3,489,092	436,090	4,676,861	598,622	6,134,139	174,361	6,477,323	206,741
November	490,764	171,886	1,313,675	623,475	3,262,982	304,517		
December	216,862	195,405	401,122	362,478	421,969	166,185		
Totals as given	**13,872,872**	**11,826,549**	**18,118,751**	**11,846,900**	**20,670,317**	**12,141,701**	**16,161,771**	**17,165,248**

* Data not available.

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agin Islands, was not completed in 1947, but is due to be ready for use by the time the 1948 halibut season opens May 1.

Early in 1948 there were reports that a cold storage plant would be erected at Kodiak. It is known that the Juneau Cold Storage Co. interests have had such a project in mind for some time; and there was some reason to believe early in 1948 that Whiz Fish Products Co. might undertake a freezer development there.

The converted *FP* vessel *Aleutian Queen*, equipped with freezing and cold storage facilities, made two trips to Western Alaska in 1947;

San Diego Area Fresh Fish Landings

SPECIES	NOVEMBER 1946	DECEMBER 1946	JANUARY 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	**Total**
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Abalone									*				
Anchovy													
Barracuda	15,101	23,682	5,100	3,773	41,565	80,790	30,284	27,963			31,057	25,825	**285,140**
Cabrilla	1,138		15,061	10,772	1,506								**28,477**
California Halibut	24,515	22,764	48,908	59,409	37,966	47,065	7,539	37,763		16,985	55,826	65,678	**424,418**
Grouper	889		3,749	10,621		26,934							**42,193**
Grunion													
Kingfish	143	542		877	516	117					3,150	9,737	**15,082**
Livers													
Mackerel	43,449	5,062			409	11,507	44,021	30,926			7,448	59,911	**202,735**
Perch													
Pilchards	8,932										5,378	9,619	**23,929**
Pompano													
Rockfish	1,749	167	999	4,288		365						1,935	**9,503**
Rock Bass	2,946	320	335	4,148	1,294			1,344				428	**10,815**
Sculpin	2,680	110	447	248	173	7,323							**10,981**
Seabass, Black	6,699	59,871	2,930	13,319	3,639	568		5,121				3,823	**95,970**
Seabass					3,121		722	141			2,472	631	**7,087**
Shark	1,390	8,849	413	106	38	2,868	590	958				2,089	**17,301**
Sheepshead	3,933	1,899	3,219	6,209	125								**15,385**
Smelt													
Spanish Mackerel	985												**985**
Spiny Lobster	9,454	10,361	3,125									8,019	**30,859**
Squid													
Swordfish	335						4,715	487		41,025	54,528	8,884	**109,974**
Tuna: Albacore	285									75,852	1,993		**78,130**
Bluefin		6,366											**6,366**
Bonito	125,040	162,578	29,602	42,790	20,143		2,749	142				115	**383,159**
Yellowfin		6,508						761					**7,269**
Skipjack	997	5,278						7,579					**13,854**
Whitefish	641	541	1,533	1,207								404	**4,326**
Yellowtail	29,864	40,755	73,416	34,224	50,820		5,334	34,290			56,894	30,141	**355,738**
Miscellaneous	1,554	1,378	2,854	874	104	81	287	397			51	115	**7,695**
Total	**282,719**	**356,931**	**191,691**	**192,865**	**161,419**	**177,618**	**96,241**	**147,872**		**133,862**	**218,797**	**227,354**	**2,187,369**

* Figures for July were not available as result of temporary closure of the Terminal Island Market News Service office due to curtailment of Fish and Wildlife Service funds.

Holdings of Frozen Salmon and Halibut in Canada

MONTHS	1947		1946		1945		1944		1943	
	SALMON Pounds	HALIBUT Pounds	SALMON Pounds	HALIBUT Pounds	SALMON, Pounds	HALIBUT, Pounds	SALMON, Pounds	HALIBUT, Pounds	SALMON, Pounds	HALIBUT, Pounds
January	8,065,293	4,174,128	6,196,698	1,470,592	4,017,350	2,883,152	8,635,758	2,663,858	6,308,321	5,242,676
February	5,623,953	3,589,922	4,663,385	1,187,954	3,027,215	2,587,185	6,370,436	2,090,295	4,182,200	4,320,049
March	4,244,154	2,680,602	2,859,525	717,231	1,888,775	1,585,107	4,819,463	1,570,619	3,234,767	3,748,295
April	3,066,183	1,282,144	1,470,544	225,343	1,213,719	1,186,513	2,609,243	1,112,071	1,589,868	2,286,881
May	2,009,028	7,139,603	719,534	5,499,251	648,610	4,430,285	1,835,781	832,899	885,223	1,491,511
June	1,849,142	10,209,201	1,475,319	9,547,890	918,446	7,063,574	1,168,639	666,559	421,659	2,828,237
July	3,312,750	11,984,345	2,307,094	9,236,955	2,577,126	6,459,904	1,157,122	3,982,472	594,768	3,939,869
August	4,773,313	13,381,987	4,285,454	9,359,891	5,840,128	6,120,636	2,212,091	6,996,135	1,180,187	4,936,049
September	6,069,550	11,492,871	6,972,441	8,039,316	8,809,170	5,273,785	3,649,937	6,913,959	2,335,864	5,036,145
October	10,811,277	9,752,392	10,414,660	7,067,600	11,943,350	4,534,217	7,817,412	6,123,579	3,843,579	4,441,290
November	11,332,636	9,065,581	12,528,448	6,299,440	11,280,404	2,873,663	8,971,042	5,207,489	6,952,658	4,148,370
Decembr			8,995,555	2,348,945	8,859,173	2,344,970	7,434,228	3,160,551	9,824,748	3,579,111

NOTE:—Data are for pounds in storage on the last day of the month shown.

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and the freezing trawlers *Deep Sea*, *Oregon* and *Chirikof* made trips. The *Deep Sea* got-in three trips to Bering Sea during the year, and landed a quantity of frozen fillets as well as the frozen King crab which was the primary objective of the three vessels.

Imports from Mexico

Complete imports of seafood from the Pacific fisheries of Mexico across the international border, totalled approximately 17,000,000 lbs. to the end of November. This included shrimp, sharp-frozen and fresh; Totuava and corbina; lobsters, cooked and live; abalone, dried and canned and some 304,271 lbs. of Albacore shipped across.

Shrimp totaled 9,363,455 lbs.; live lobsters 1,087,462 lbs., and cooked 85,000. Imports of the great Mexican sea bass, totuava, were 1,888,053 lbs. Abalone, from Lower California, packed in 1-lb. talls, whole, represented 2,794,591 lbs. and dried abalone 25,000 lbs. Balance of the imports were fresh fish, such as corbina, sharks, livers, etc.

1947—FISHERY PRODUCTS IMPORTED FROM MEXICO—1947

(Entered Through California and Arizona)

SPECIES	DEC. 1946	JAN. 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	Grand Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Fish:													
Cabrilla					1,120			20,202					**21,322**
Corbina	9,352	1,410	20,698	52,023	366,466	21,958	3,003	8,032	10,640	1,250	3,947	2,614	**501,393**
Dried Fish		3,499											**3 499**
Halibut (California)	11,642												**11,642**
Rockfish				677									**677**
Sea Bass:	305				552							206	**1,063**
Totuava	74,334	143,153	782,526	460,592	9,841	169,119	227,593	16,586		19,101	2,476	58,910	**1,964,231**
Tuna								122,268	182,263			2,966	**307,497**
Unclassified	85,708	50,332	54,357	25,334	100,815	32,323	50,272	73,485	54,592	16,903	13,542	1,054	**558,717**
Total	**181,341**	**198,394**	**857,581**	**538,626**	**478,794**	**223,400**	**280,868**	**240,573**	**247,495**	**37,254**	**19,965**	**65,750**	**3,370,041**
Shellfish:													
Abalone	89,934	51,180	280,261	38,090	134,001	156,912	401,096	241,000	546,980	403,240	412,520	567,300	**3,322,514**
Abalone dried		3,700			2,795	5,500	7,675	5,745	4,600	1,755	4,402	7,954	**44,126**
Abalone fresh								200					**200**
Clams: in shell	86,994					250				1,200	2,500	12,104	**103,048**
meats		75,940			5,236		3,614	715					**85,505**
Shrimp	1,720,995	993,870	1,226,217	1,517,088	1,062,013	344,452	583,973	309,386	126,963	354,319	1,273,141	1,723,432	**11,235,849**
Shrimp dried		973											**973**
Spiny Lobster	405,509	266,733	376,951	216,678						18,800	56,262	214,217	**1,555,150**
Other	300	1,256			2,780	9,700	17,561	6,710	5,034	488		220	**44,049**
Total	**2,303,732**	**1,393,652**	**1,883,429**	**1,771,856**	**1,206,825**	**516,814**	**1,013,919**	**563,756**	**683,577**	**779,802**	**1,748,825**	**2,525,227**	**16,391,414**
Other Fishery Products:													
Liver: Sea bass	9,178	717	14,338	18,387	266	1,446	521	1,912	93			206	**47,064**
Shark	7,944	10,071	24,790	16,839	49,980	69,624	85,892	80,831	32,731	45,815	48,488	14,365	**487,370**
Unclassified	3,722	229	126	364	63	3,291	1,102	538	450				**9,885**
Fish Sounds	332	110	260	154	1,096	3,761	176	1,810	279	212			**8,190**
Scrap						71,209							**71,209**
Shark Fins		350				2,463	679	3,156	352	6,170	6,728	200	**20,098**
Total	**21,176**	**11,477**	**39,514**	**35,744**	**51,405**	**151,794**	**88,370**	**88,247**	**33,905**	**52,197**	**55,216**	**14,771**	**643,816**
Grand Total	**2,506,249**	**1,603,523**	**2,780,524**	**2,346,226**	**1,737,024**	**892,008**	**1,383,157**	**892,576**	**964,977**	**869,253**	**1,824,006**	**2,605,748**	**20,405,271**

Washington Eulachon Smelt Catches

YEAR	COWLITZ RIVER POUNDS	GRAYS RIVER POUNDS	LEWIS RIVER POUNDS	COLUMBIA RIVER POUNDS	Total Pounds
1939	1,012,730	30,300	1,342,675	184,348	**2,570,053**
1940	730,170	60,450	1,341,250	384,650	**2,516,520**
1941	1,794,233		376,975	42,919	**2,214,127**
1942	1,570,915	51,750		54,325	**1,676,990**
1943	2,973,340	3,675	270,375	124,500	**3,371,790**
1944	1,125,674	10,900	504,000	249,522	****1,942,771**
1945	2,048,438	42,753	1,552,770	215,040	*** 3,891,463**
1946	2,674,040	300		51,099	**2,725,439**
1947	1,192,663			128,280	**1,320,943**

* Includes 32,462 lbs. caught in the Kalama River.

** Includes 44,300 pounds from Kalama River; 7,675 pounds from Naselle River; and 700 pounds from Nemah River.

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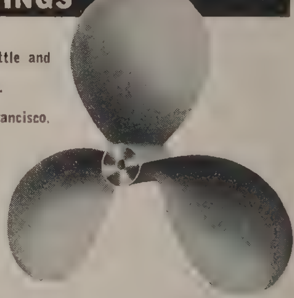

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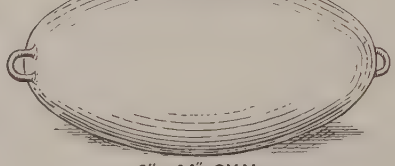

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1947—PACIFIC STATES FROZEN FISH BY MONTHS—1947

VARIETIES	DEC. 1946	JAN. 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	**Total**
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food	316,268	94,219	239,708	388,099	193,655	400,811	233,174	263,824	167,500	183,997	178,644	337,108	**2,997,007**
Cod	....	275	380	....	2,275	22,380	3,584	15,715	150	21,320	3,115	7,940	**77,134**
FILLETS:													
Cod	8,721	3,550	5,184	20,304	4,989	23,706	35,951	40,040	31,411	8,522	3,200	10,496	**196,074**
Flounders (including Sole)	6,815	9,660	28,334	9,614	25,059	352,832	237,813	673,433	189,794	206,779	98,482	128,894	**1,967,509**
Lingcod	2,728	2,066	2,606	4,340	8,980	34,789	12,985	75,387	10,363	93,466	34,414	13,973	**296,097**
Mackerel			1,720										**1 720**
Other Fillets	38,160	5,546	30,416	16,795	32,531	71,279	24,685	66,911	44,014	25,236	41,092	146,862	**543,527**
Flounders (incl. Sole & Calif. Halibut)	5,724	....	7,485	883	860	27,697	8,318	7,235	9,473	1,785	1,452	2,163	**73,075**
Halibut	450	....	32,025	....	....	1,087,772	997,323	961,538	2,886,311	87,548	25,567	8,351	**6,086,885**
Herring, sea	....	4,315	3,856	7,610	....	....	....	....	....	9,930	1,780	3,485	**30,976**
Mackerel (except fillets, Spanish & King)	4,860	2,638	9,694	940	390	5,210	5,090	2,500	8,399	8,973	14,596	4,610	**67,900**
Sablefish	13,407	12,589	....	396	....	3,111	9,128	45,865	64,037	403,876	269,000	179,412	**1,000,821**
SALMON:													
King or Chinook	1,850	76,819	1,000	250	....	111,170	106,208	546,150	604,176	531,397	97,005	17,138	**2,093,163**
Silver or Coho	31,165	158,590	....	....	....	4,818	13,558	176,599	150,724	618,987	834,753	109,790	**2,098,984**
Fall or Chum	4,408	31,256	....	....	....	....	....	....	....	368	378,742	888,318	**1,303,092**
Pink	....	....	....	....	....	....	....	643	350	222,444	....	....	**234,437**
Steelhead Trout	9,032	2,743	....	....	....	285	221	5,477	9,389	34,402	4,655	2,118	**68,322**
Unclassified	13,433	....	....	....	8,690	....	....	28,799	133,169	613,167	84,710	13,378	**895,346**
Shad	....	....	....	....	....	73,921	114,552	9,962	61	....	....	....	**198,496**
Shad roe	....	....	....	....	....	4,769	5,830	1,300	....	....	....	180	**12,079**
Smelt	4,045	3,841	11,148	31,020	6,169	5,550	26,719	79,198	28,181	11,379	16,779	40,399	**264,428**
Swordfish	....	....	....	....	....	....	311	19,170	75,886	84,530	29,569	266	**209,732**
Tuna	....	....	10,884	736	2,411	942	....	628,662	2,778,279	1,094,151	44,734	1,579	**4,562,378**
Other Salt-water fish	202,297	62,388	337,270	149,116	166,924	276,784	222,522	431,995	452,885	433,065	243,776	194,340	**3,173,362**
Total Salt-water Fish	**663,363**	**470,495**	**721,710**	**630,103**	**452,933**	**2,507,826**	**2,057,972**	**4,080,403**	**7,644,552**	**4,695,322**	**2,406,065**	**2,110,800**	**28,450,824**
Shellfish:													
Lobster tails	45,844	79,360	92,639	40,283	....	610	3,330	6,913	15,485	7,845	17,791	14,392	**324,492**
Clams	4,592	1,290	15,993	63,162	15,673	1,030	1,400	2,340	645	6,119	....	158	**112,342**
Crabs	6,015	7,725	5,497	36,025	15,195	78,236	50,149	14,044	1,155	52,715	4,364	9,557	**280,677**
Oysters	21,284	23,088	13,752	13,006	45,170	8,236	4,856	3,979	5,688	7,593	21,089	52,828	**220,569**
Shrimp	23,000	20,238	192,714	171,068	128,920	37,242	62,764	30,461	73,018	74,108	114,834	93,208	**1,021,575**
Squid	88,040	4,410	8,230	....	78,365	1,094	37,587	47,050	42,400	109,184	163,202	38,492	**618,034**
Scallops	....	....	....	....	75	....	245	....	....	....	....	....	**320**
Other Shellfish	1,237	400	394	2,635	1,000	8,688	15,040	6,177	1,097	....	1,200	4,165	**42,033**
Total Shellfish	**190,012**	**136,511**	**329,219**	**326,179**	**284,398**	**135,136**	**175,371**	**110,964**	**139,488**	**257,564**	**322,480**	**212,800**	**2,620,042**
1946 TOTALS—													
Fish	663,363	480,824	1,048,588	1,177,120	1,494,538	4,431,074	5,770,129	4,987,946	5,237,465	4,424,173	5,156,746	3,312,396	**36,982,766**
Shellfish	190,012	300,788	224,902	199,328	269,980	286,704	181,552	93,817	67,220	37,659	156,792	173,888	**2,182,642**
1945 TOTALS—													
Fish	1,469,276	505,433	1,196,658	393,908	2,924,034	5,184,343	6,742,264	7,487,763	7,624,704	7,397,608	4,861,338	2,229,034	**48,016,373**
Shellfish	223,061	303,317	130,315	188,809	246,828	473,998	188,629	97,006	89,363	92,250	102,679	335,686	**2,471,941**

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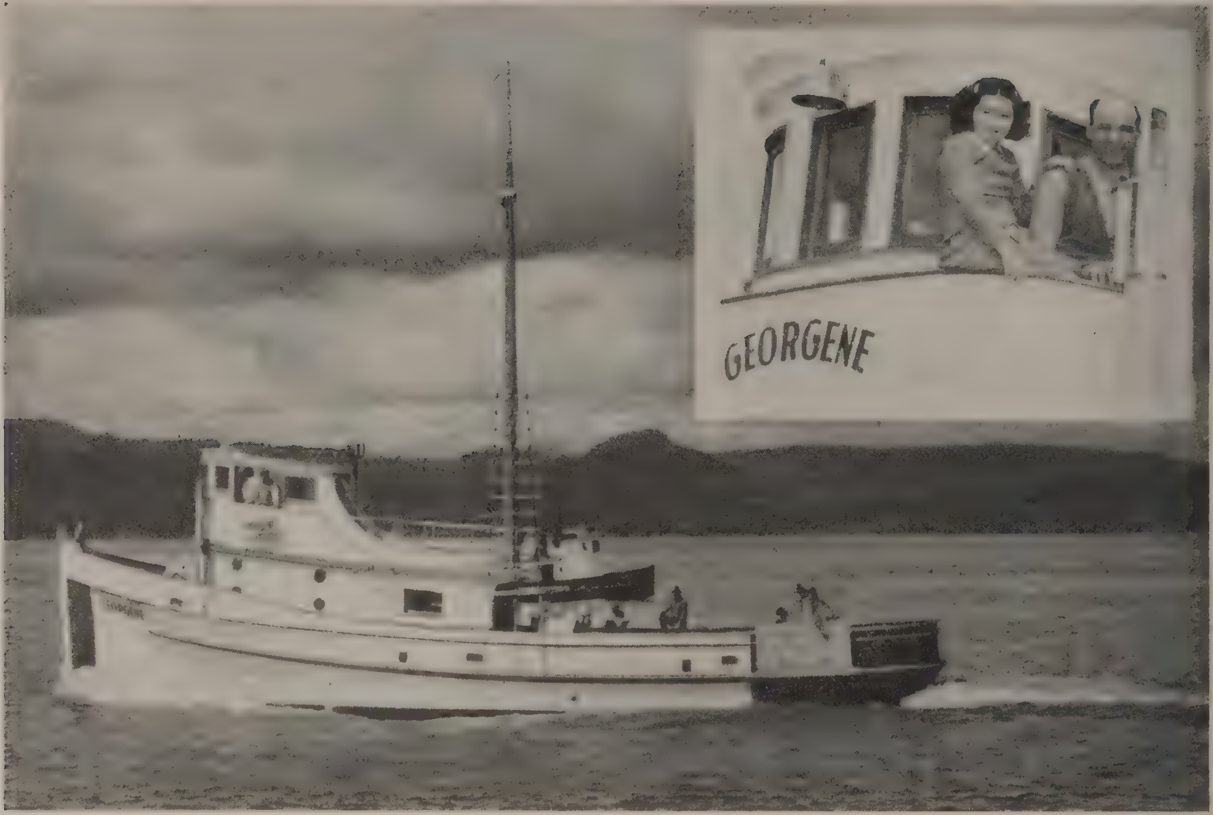
1947—Alaska Fish Freezings by Months—1947

(Includes American-Caught Fish Frozen in Bond in British Columbia)

	Dec. 1946	Jan. 1947	February	March	April	May	June	July	August	September	October	November	**Total**
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food			23,000	1,374,000	1,191,600							167,600	**2,756,200**
Cod, rock or red	104		621	1,999		7,664	2,394	1,190	1,104	700			**15,776**
Cod, true	35			788		985							**1,808**
FILLETS:													
Lingcod	367												**367**
Other fillets						573	557		547		852		**2,529**
Halibut						4,614,935	3,906,356	5,541,041	4,445,003	37,874	22,035	7,351	**18,574,595**
Lingcod						2,178	2,447	5,979	1,795	4,044			**16,443**
Sablefish	4,061			4,431		36,484	3,053	143,255	78,672	250.970	230,597	25,537	**777,600**
SALMON:													
King or Chinook	8,011	305	2,715	37,814	14,242	146,609	728,659	632,561	428,746	197,687	91,767	46,821	**2,335,937**
Silver or Coho						788	151,299	1,622,124	2,422,904	1,322,420	109,662	58,716	**5,687,913**
Fall or Chum							1,334	50,888	463,841	179,283	343,755	60,468	**1,099,569**
Pink							105	18,111	110,521	12,326	1,470		**142,533**
Steelhead					1,427	2,181	745	4,923	1,890	527			**11,693**
Unclassified							56,768	124,910	125,567	2,797	67	67	**310,176**
Unclassified	3,269			55	40	2,009		217	1,954	9,912	2,291	3,141	**22,888**
Total	**16,387**	**305**	**26,336**	**1,419,087**	**1,207,309**	**4,814,406**	**4,853,717**	**8,145,199**	**8,032,544**	**2,018,540**	**802,496**	**369,701**	**31,756,027**
Shellfish:													
Clams and clam meat													
Shrimp and Crabmeat	42,840	46,238	1,062							8,122	6,480	2,070	**106,812**
Total	**42,840**	**46,238**	**1,062**							**8,122**	**6,480**	**2,070**	**406,812**
Total Fish and Shellfish	**59,227**	**46,543**	**27,398**	**1,419,087**	**1,207,309**	**4,814,406**	**4,853,717**	**8,145,199**	**8,082,544**	**2,026,662**	**808,976**	**371,771**	**31,862,839**

1947—Miscellaneous Fish Products Received by Seattle Wholesale Dealers—1947

Product and Unit	January	February	March	April	May	June	July	August	September	October	November	**11-Mo. Totals**
Codfish, Salt, Import, lbs.		23,469					110,600	200	122,920	115,770	11,461	**384,420**
Finnan Haddie, lbs.	8,250	5,950	31,162	35,220	5,475	32,450	31,000	38,570		38,235		**226,312**
Herring, bbl.	5						5	366	67	642		**1,086**
Herring, ½ bbl.		138						2,769	1,947	4,448		**9,302**
Herring, B. C., Import								143		128	9	**280**
Herring, kippered, Lbs.							2,500	1,000		2 000	1,100	**6,600**
Mackerel, Lbs.				22,000							34,000	**56,000**
Salmon, Mild Cure, Tcs.			110									**110**
Salmon, Mild Cure, Import, Tcs.	5	4	21	43	148	559	937	842	398	119	50	**3,126**
Salmon, smoked, Lbs.												
Salmon, smoked, Import, Lbs.												
Salmon, salted, ½ Tcs.	25						2			12		**39**
Salmon, salted, bbls.	117	45		56	49	50	329	687	127	342	17	**1,819**
Salmon, kippered, Lbs.			160		486						250	**896**
Salmon, unclassified, bbls.										101		**101**
Miscellaneous												
Herring Meal, Tons	1,245							3,533	1,743	5,762		**12,283**
Unclassified meal, Tons	136	375			6				653	328		**1,498**
Herring Oil, gal.	47,300			40,600			64,367	242,445	166,757	582,856	102,500	**1,246,825**
Unclassified oil, gal.		80,295		81,657				75,700				**227,652**
Fish Livers:												
Grayfish, Lbs.	95,705	83,644	84,514	393,002	199,137	214,718	178,807	85,339	105,742	67,939	94,768	**1,603,315**
Halibut-Viscera, Lbs.	9,913	9,150	3,401		2,887	199,891	165,956	234,287	98,034	126,480	27,040	**877,039**
Sablefish-Viscera, Lbs.	62,583	14,807	36,984	17	260	1,162	937	11,480	6,587	76,505	18,495	**229,817**
Lingcod, Lbs.	5,682	5,200	6,145	3,225	5,969	7,222	10,350	2,603	7,940	6,181	5,898	**66,415**
Soupfin Shark, Lbs.	5,076	17,356	2,389		2	24	8,776	9,717	8,199	2,083	2,540	**56,162**
Miscellaneous, Lbs.	35,603	41,363	59,182	65,461	14,119	27,886	41,647	87,108	68,945	47,939	33,923	**523,176**



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DIESEL POWER

Installed by **GUNDERSON**

As lively and as attractive as her pretty namesake, the 65-foot "Georgene" is named after the twelve-year old daughter of her owner, George Amato of Astoria, Oregon.

The "Georgene" was built in 1946 by the Siletz Boat Works of Kernville, Oregon, and is equipped for tuna fishing as well as dragging. She is powered by a 330 H.P. Twin-6 General Motors Diesel engine, with 6 to 1 reduction gear. Naud Aer-O-Trol controls are used on the clutches and the throttles are Bendix-operated from the pilot house.

General Motors Diesels start quickly on their own fuel. They are 2-cycle, with power at every downstroke of every piston. Fire risk is minimized. Their size and weight leave extra room for accommodations and pay load of fish.

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  Portland 9, Oregon
- Highway 99 North
  Eugene, Oregon

OREGON OTTER TRAWL LANDINGS

Year	Sole				Flounders	"Turbot"	"Cod" Miscel.	Lingcod	Rockfish	Dogfish	Total
	Petrale	English	Dover	Other							
1947..	1,335,881	1,661,072	1,873,956	97,652	511,379	689,109	28,665	512,606	4,151,403	43,339	***10,905,062**
1946..	2,984,092	3,950,609	3,197,988	132,136	1,279,839	297,708	260,574	1,150,803	10,671,012	31,310	**23,9"6,071**
1945..	1,574,143	1,096,601	2,704,216	238,507	1,024,288	168,811	412,731	1,015,215	17,365,866	40,554	**25,640,932**
1944..	2,019,148	1,057,701	1,593,469	254,400	877,048	700,147	594,810	1,208,051	11,266,874	398,836	**19,970,484**
1943..	3,805,094	898,639	6,431,666	2,239,125	858,051	2,831,013	32,731	934,878	6,762,494	1,601,368	**26,395,059**
1942..	3,745,236	227,783	2,308,308	1,671,162	443,840	71,137	47,255	989,142	1,728,299	1,086,242	**12,318,404**

* January through September.

Seattle — Weighted Average Prices Paid to Fishermen — 1947

Fish	December, 1946	January	February	March	April	May	June	July	August	September	October	November
	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.	Cents per Lb.
Cod, true, dressed	8.75	7.0	7.0	7.0	5.5	5.0	5.0	5.0	5.0	5.3	6.0	6.0
Cod, true, Rd	6.5					3.0	3.0	3.0	3.0	3.3	4.0	4.0
Flounder, Rd	5.0	4.0	4.0	4.0	3.3	3.0	3.0	3.4	3.0	3.7	4.0	4.0
Halibut, No. 1, Dressed						20.7	24.7	26.7	26.3			
Halibut, No. 2, Dressed						16.4	20.4	23.5	22.7			
Herring, Rd			4.5	5.5	5.5							
Lingcod, Dressed	9.0	12.0	11.0	9.0	7.9	6.8	7.0	6.8	6.6	7.6	8.0	8.4
Perch, Rd	13.4	12.0	12.0	10.7	5.6	6.4	6.0			5.0	11.7	13.0
Rockfish, Dressed	7.6	10.0	11.5	7.8	7.0	3.9	5.0	5.0	6.3	5.7	6.0	11.2
Rockfish, Rd	5.0	4.8	5.0	4.75	3.8	3.5	3.5	3.5	3.5	3.7	4.5	4.5
Sablefish, Dressed	17.0			15.0	10.3	10.0	10.0	10.1	11.9	12.6	12.9	15.2
Sablefish, Rd	4.0		5.0			5.0	5.0	4.8	5.0	3.5	1.8	6.0
Salmon:												
Chinook, drawn	35.25		30.1	39.9	33.0	29.3	34.5	34.2	36.2	36.8	37.4	35.7
Chum, round	13.0										18.9	19.0
Pink drawn										15.6		
Silver, drawn	36.0				27.25	18.9	21.8	26.3	29.8	33.4	35.5	37.0
Sockeye, round						31.0			21.0			
Smelt, Eulachon, rd.			8.1	8.5								
Smelt, silver, rd	10.2	11.2	9.4		11.0	10.0	9.4	8.3	6.9	8.6	8.7	8.5
Sole, English, round	5.9	5.5	5.5	5.5	5.11	4.0	4.0	4.0	4.0	4.5	5.0	5.0
Sole, Petrale, rd	8.0	6.5	6.5	6.5	6.13	6.0	6.0	6.9	6.0	6.3	7.0	7.0
Tuna, Albacore								23.3	27.4	31.0	34.2	
Fillets, Sole	32.9											
Grand Average	**8.8**	**8.0**	**6.3**	**7.2**	**17.1**	**12.4**	**13.2**	**18.4**	**22.8**	**12.0**	**11.9**	**8.3**

1947 — OREGON OCEAN FISH — 1947

(Salmon, Tuna and Pilchards Not Included)

Species	October 1946	November 1946	December 1946	January 1947	February	March	April	May	June	July	August	September	Total
Flounders:													
Ocean	42,902	11,419	20,671	6,665	28,062	21,496	86,754	58,830	6,563	2,339	13,702	72,385	**371,788**
Bay & Misc.	16,262	11,003	3,474	1,461	48,971	687	27	51,453	22,802	2,997	53,153	33,032	**245,322**
Halibut	27,941	12,612					157	270,566	239,244	75,598		6,194	**632,312**
Cod:													
Ling	56,999	74,986	30,610	26,245	39,040	62,577	74,236	66,700	31,438	88,366	38,034	85,970	**675,201**
Sable	259,405	184,126	5,110	2,992	114,432	370	188	16,936	17,171	39,657	17,023	36,613	**694,023**
Rock	905,803	759,822	236,933	454,418	1,076,820	306,497	842,619	641,913	435,838	237,234	57,732	98,332	**6,053,961**
True Cod	1,639	3,517	1,317	26	830	9,190	858	7,780	728	3,194	3,817	2,242	**35,138**
Miscel	18,601	20,744					800				21,744		**61,889**
Sole:													
Petrale	162,272	50,041	25,301	29,778	35,042	78,952	144,462	297,964	87,079	504,805	58,765	99,034	**1,573,495**
Fringe	2,715	6,922	4,627	1,311	630	1,564	3,801	1,208	316	902	1,142	41,255	**66,393**
English	135,250	152,022	51,626	89,793	74,740	91,760	227,694	218,706	125,896	325,077	285,446	221,960	**1,999,970**
Rex													
Dover	21,620	1,733					3,069	40,932	429,687	758,741	229,271	412,256	**1,897,309**
Turbot	5,151					3,911	27,526	238,191	30,598	246,835	70,099	71,949	**694,260**
Miscel	2,522	2,002	4,880	14,033	10	3,330		3,148	12,656	748	11,598		**54,927**
Red Snapper	103,697	13,480		52,105	83,776	121,099	165,830	333,792	678,071	658,379	1,634	114	**2,211,977**
Pilchard									8,783	8,127	2,875		**19,785**
Sea Bass	40						12		764	241			**1,057**
Perch	4	140			510	1,184	1,016	1,492		3-	40	2,088	**6,477**
Herrng			1,128	15,599	27,874	28,451							**73,052**
Skate		40		18									**58**
Capron	445					2,452		84					**2,981**
Smelt									58	315	193		**566**
Porpoise													
Devilfish					130	30		46					**206**
Shinners								130		80	739		**949**
Mackerel													
Scrap	20,887	34,001	21,611	25,875	19,068	808	4,315		156,652	5,222	423	8,862	**297,724**
Sand Dab													
Miscellaneous	7,707	897		147	534		2,972	172,891	193,839	691		1,016	**380,694**
Shark:													
Dogfish	31,220				2,994				33,010	7,335			**74,559**
Soupfin				5,755	353								**6,108**
Bluefin									3				**3**
Grouper													
[illegible]													
Bonito													
Miscel			340	216	4,993						398		**5,947**
Tuna													
Total Fish	**1,823,082**	**1,339,507**	**407,628**	**726,437**	**1,558,809**	**734,358**	**1,586;336**	**2,422,762**	**2,511,196**	**2,966,886**	**867,828**	**1,193,302**	**18,138,131**

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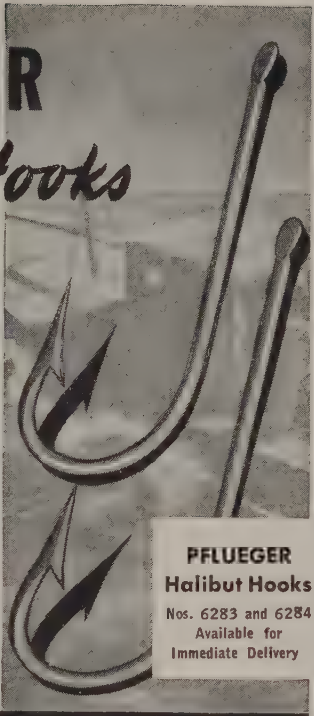

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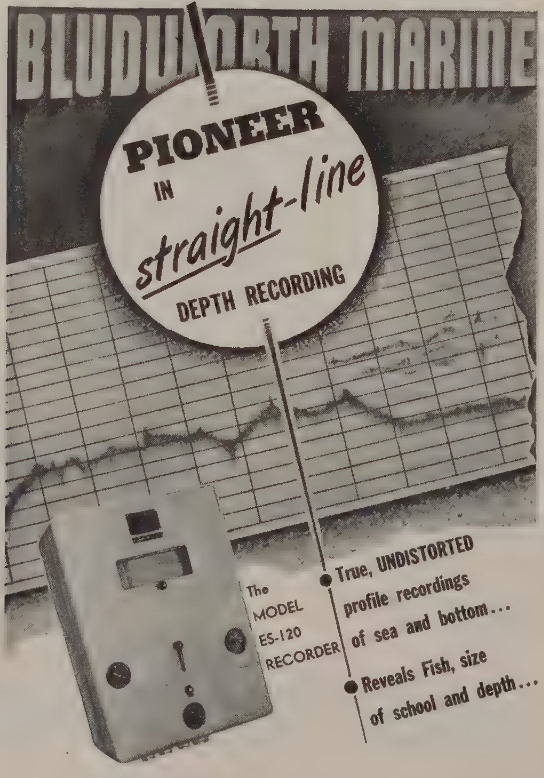
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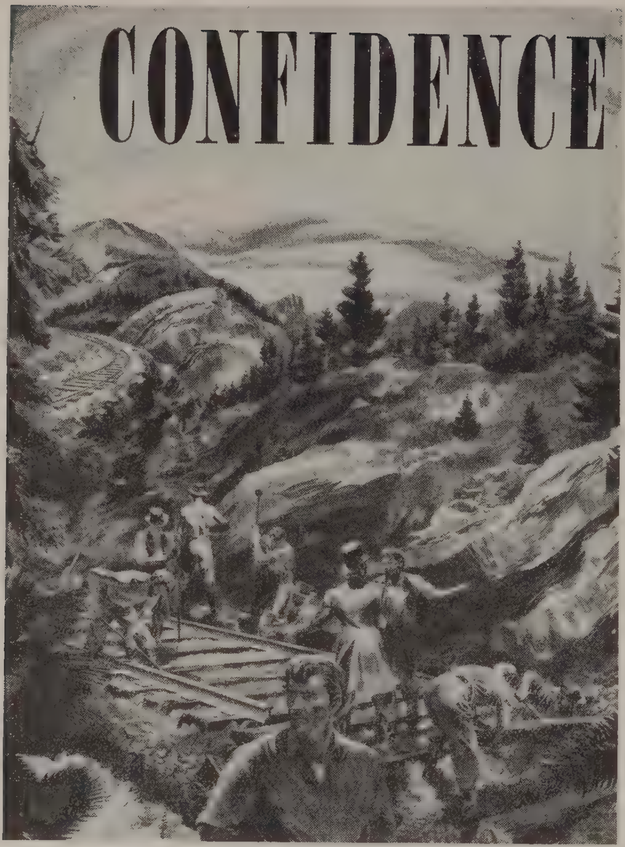
1947 -- WASHINGTON FISH FREEZINGS BY MONTHS -- 1947

Saltwater Fish	December 1946	January 1947	February 1947	March	April	May	June	July	August	September	October	November	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	**Pounds**
Bait and Animal Food	243,475	15,260	173,991	327,354	179,115	334,934	163,696	219,324	94,822	129,850	134,122	316,145	**2,332,088**
Cod, rock or red	1,355	5,047	1,565	2,360	1,542	1,062	6,071	4,780	797	4,970		152	**29,701**
Cod, true		275	380		2,275	21,530	3,584	15,715	150	21,320	3,115	7,940	**76,284**
FILLETS:													
Cod, rock or red	4,411	985	25,095	12,610	455	32,765	8,829	60,234	40,522	18,176	13,416	92,969	**310,467**
Cod, true	8,951	3,550	5,184	20,304	4,634	22,291	35,001	38,790	29,741	2,662	3,200	10,326	**184,634**
Flounders	795	1,020	760	1,730		1,310	3,936	1,839		4,012	3,050	15,727	**34,179**
Lingcod	2,443	2,066	2,606	4,340	8,130	32,429	12,050	72,927	8,603	87,981	33,804	12,633	**280,012**
Mackerel													
SOLE:													
English	1,380	1,100	25,845	6,064	2,338	19,173	17,885	15,226		2,920	7,991	12,742	**112,664**
Petrale	2,205	6,595	959			117,509	80,096	163,045	10,488	6,615	4,245	37,373	**429,130**
Dover													
Other	295						8,983	9,980		677	710	750	**21,395**
Other Fillets		1,696				6,736	2,685	19,799	5,343	18,582	16,406	31,989	**103,236**
Flounders, etc.	4,950		3,485	60	1,660	684		390	455		667	340	**12,691**
Halibut	450			81		919,671	493,159	779,290	2,810,258	85,456	24,559	1,946	**5,114,870**
Herring, sea		4,315	3,856	7,610							1,780	3,485	**21,046**
Lingcod	60,741	6,242	11,585	15,940	10,055	29,195	17,581	60,153	2,461	17,522	29,695	20,894	**282,064**
Mackerel						750		360		1,020	1,460		**3,590**
Sablefish	1,306	12,589			45	170		28,165	61,520	381,871	225,860	148,456	**859,982**
SALMON:													
King or Chinook		76,819			14,010	100,652	95,870	510,538	266,833	410,908	78,898	13,443	**1,567,971**
Silver or Coho	1,850	158,190	50			295,853	1,014	49,245	69,319	555,853	652,833	49,613	**1,833,820**
Vall or Chum		31,256								360	362,222	870,568	**1,264,406**
Pink								410	350	207,001	675		**208,436**
Steelhead		2,743					71			9,465			**12,279**
Unclassified	4,465				8,690			1,245		38,815	1,117	3,065	**57,397**
Shad	461	515				1,290	27,350						**29,616**
Shad roe	1,475					114	3,547						**5,146**
Smelt	2,570	2,641	4,205	2,837	265	5,550	26,430	78,250	27,241	11,379	15,949	40,089	**217,406**
Tuna								133,677	397,244	7,276	15,597	1,200	**554,994**
Unclassified	1,015		4,657	474		580	4,000		2,011	5,217	9,541	3,611	**31,106**
Total Fish	**344,593**	**332,904**	**264,223**	**401,764**	**233,214**	**1,944,248**	**1,011,838**	**2,263,382**	**3,828,158**	**2,029,908**	**1,640,912**	**1,695,456**	**15,990,600**
Shellfish:													
Clams and clam meat	4,580	1,290	9,036	42,325	15,657	1,030	1,400	1,995	645			60	**78,018**
Crabs and crab meat	4,120	1,245	4,054	26,330	1,005	39,100	43,680	9,204	1,155	594	3,249	7,520	**141,256**
Lobster tails, spiny	707	1,281	3,368	70		610	1,330	1,313	3,100	4,550	1,641	510	**18,480**
Oysters	20,114	22,074	13,428	10,192	37,500	5,076	4,056	1,728	5,688	7,441	21,089	52,316	**200,702**
Shrimp and shrimp meat			600	450	700	932		1,794	1,150	3,055	3,630		**12,311**
Squid								250			3,562	6,520	**10,332**
Other	1,157	400	394	2,175	75	1,200	13,240	1,171			1,000	4,290	**25,102**
Total Shellfish	**30,678**	**26,290**	**30,880**	**81,542**	**54,937**	**47,948**	**63,706**	**17,455**	**11,738**	**15,640**	**34,171**	**71,216**	**486,201**
Total Fish and Shellfish	**375,271**	**359,194**	**295,103**	**483,306**	**288,151**	**1,992,196**	**1,075,544**	**2,280,837**	**3,839,896**	**2,045,548**	**1,675,083**	**1,766,672**	**16,476,801**



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P. O. BOX 1001, SEATTLE 11

1947 -- WASHINGTON FROZEN FISH HOLDINGS -- 1947

SPECIES	DECEMBER, 1946	JANUARY, 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Saltwater Fish												
Bait and Animal Food	485,632	333,841	426,989	366,052	579,376	742,491	703,015	548,642	444,714	339,560	375,088	607,431
Cod, rock or red	25,532	46,611	111,396	93,115	127,607	55,667	186,848	108,558	91,683	73,343	69,648	109,620
Cod, true	67,318	37,403	29,753	27,096	22,258	107,300	28,725	40,460	31,577	40,618	32,652	8,949
FILLETS:												
Cod, rock or red	74,497	35,855	63,963	41,407	44,270	51,698	46,635	141,401	154,442	119,330	78,760	166,069
Cod, true	17,741	20,037	26,466	16,272	18,985	30,131	49,687	98,106	121,974	84,942	71,259	54,740
Flounder	13,038	8,369	6,004	5,924	5,414	1,935	6,003	9,032	5,107	5,163	13,068	27,418
Lingcod	41,059	37,041	34,701	31,598	26,662	47,365	51,529	125,605	113,373	91,071	59,338	103,313
Mackerel												
Sole: Dover		19,725										
English	63,390	47,979	27,963	12,200	9,480	15,981	35,423	48,273	45,656	26,576	9,362	22,448
Petrale	162,228	88,238	90,732	57,568	34,759	97,424	124,914	251,904	195,683	177,299	71,878	127,180
Rex												750
Other	15,118	25,342	3,421	7,193	2,918	2,490	11,289	13,455	1,425	3,525	31,681	18,926
Other Fillets	48,744	48,583	39,078	42,817	44,042	32,167	26,864	48,029	29,225	29,917	51,302	96,517
Flounders, etc	5,235	3,000	3,700	370	93,513	3,960	3,640	3,060	3,805		27	340
Halibut	2,268,546	2,046,026	1,285,148	827,124	673,828	1,538,885	1,628,964	3,118,349	6,187,554	5,242,338	4,402,235	4,071,319
Herring, sea	5,102	10,270	9,451	7,165	23,151	20,885	1,158	97,941	81,879	19,263	17,911	22,448
Lingcod	152,001	82,729	102,144	96,315	94,606	103,108	144,207	182,022	155,897	101,181	93,284	64,651
Mackerel						343	1,293	1,738	1,295	4,913	7,315	3,051
Sablefish	799,729	763,536	1,112,333	1,277,491	1,257,268	1,031,951	1,324,397	1,095,069	993,351	1,354,826	1,107,528	1,118,985
SALMON:												
King or Chinook	1,200,173	1,247,390	1,010,750	947,728	789,536	548,531	564,570	883,317	1,210,234	1,604,980	1,698,789	1,355,873
Silver or Coho	720,864	1,207,845	807,734	630,164	611,327	313,161	332,446	253,837	357,377	931,031	1,530,667	1,534,403
Fall or Chum	2,632,031	1,921,222	1,972,113	1,328,449	468,293	126,936	59,196	26,072	28,090	21,978	325,262	1,059,120
Pink	18,764	21,015	57,606	23,049	13,574	13,809	6,577	6,857	6,697	229,968	94,735	100,484
Steelhead	495	3,018	7,178	24,663	938	20	20	20	20	9,110	9,110	9,110
Unclassified	395,179	26,089	20,336	1,629	7,905	1,122	947	2,192	2,192	13,840	16,711	12,977
Shad	33,339	31,929	31,929	12,929	2,916	2,176	29,517	35,739	36,265	1,909	29,497	28,781
Shad roe	13,000	1,530	870	3	210	344	3,620	721	2,267	28,470	857	725
Smelt	106,853	81,190	77,995	69,121	38,866	32,834	50,232	125,551	170,718	263,246	151,735	177,245
Tuna	12,173	10,115	6,405	5,820	7,630	6,905	5,827	134,417	404,276	115,486	10,077	27,370
Unclassified	43,419	55,914	56,316	13,147	8,490	13,143	15,182	18,703	30,835	30,279	25,927	17,513
Total	**9,241,200**	**8,261,840**	**7,422,474**	**5,966,409**	**5,007,822**	**4,943,762**	**5,442,725**	**7,419,070**	**10,907,611**	**10,966,407**	**10,385,713**	**10,947,756**
Shellfish												
Clams and clam meat	9,245	5,729	11,753	82,805	56,315	11,422	9,509	9,795	9,529	13,788	8,016	7,839
Crabs and crab meat	52,376	32,231	25,882	49,355	95,220	132,919	169,924	126,222	59,374	6,457	13,301	36,805
Lobster tails, spiny	5,016	3,562	4,165	4,350	2,634	2,288	2,422	2,434	4,235	6,852	7,110	2,741
Oysters	55,293	51,607	49,365	59,034	95,130	91,224	79,923	48,015	41,982	24,595	27,580	24,476
Shrimp and shrimp meat	268,049	247,742	235,541	181,403	189,710	168,213	149,354	128,898	120,913	124,423	138,022	160,932
Squid	2,650	4,052	3,549	1,560	2,379	4,087	2,389	12,930	5,559	11,109	10,102	13,938
Other	6,898	4,041	2,535	3,993	5,251	4,803	13,650	11,230	9,464	10,772	6,768	20,917
Total	**399,527**	**348,964**	**332,790**	**382,500**	**446,639**	**414,956**	**427,171**	**339,524**	**251,056**	**197,996**	**210,899**	**267,648**
TOTAL FISH AND SHELLFISH	**9,820,727**	**8,610,804**	**7,755,264**	**6,348,909**	**5,454,461**	**5,358,718**	**5,869,896**	**7,758,594**	**11,158,667**	**11,164,403**	**10,596,612**	**11,215,404**
Cured Fish												
Herring, salted	163,815	282,750	279,707	293,934	272,454	236,284	195,087	85,181	171,843	229,461	294,280	422,064
Salmon, mild cure	2,805,895	2,537,320	2,357,320	1,912,770	1,601,019	1,494,707	2,001,315	3,137,887	4,468,664	4,568,626	4,585,553	4,052,283
Other, salted	124,323	180,558	180,141	289,191	332,221	363,310	372,025	653,196	633,583	706,739	719,532	653,076
Smoked fish	46,945	18,890	43,762	47,083	33,809	24,785	45,583	65,534	55,253	43,487	31,470	28,479
Total	**3,140,978**	**3,019,518**	**2,860,930**	**2,542,978**	**2,239,503**	**2,119,086**	**2,614,010**	**3,941,798**	**5,329,343**	**5,548,313**	**5,630,835**	**5,155,902**

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1947—COASTWISE RECEIPTS AT SEATTLE FROM ALASKA—1947

FRESH AND FROZEN—POUNDS		DECEMBER 1946	JANUARY 1947	FEBRUARY 1947	MARCH 1947	APRIL 1947	MAY 1947	JUNE 1947	JULY 1947	AUGUST 1947	SEPTEMBER 1947	OCTOBER 1947	NOVEMBER 1947	Total 1947	Total 1946
Cod, true	Frozen		221	130		357							154	862	1,170
Dolly Varden Trout															
Dolly Varden Trout	Frozen	6,592					1,925	2,633	1,648	3,269	3,942			20,009	22,876
Flounder	Frozen														
Halibut							453,065	174,784	70,967					698,816	117,580
Halibut	Frozen	1,060,869	457,972	1,606,146	1,011,396	950,539	77,050	351,886	1,184,982	829,277	871,000	1,397,748	1,906,909	11,705,774	6,422,846
Herring	Frozen					53,200								53,200	60,000
Lingcod															3,076
Lingcod	Frozen	29,275	11,698	30,097	16,947	79,717		4,405			440	5,817	1,416	179,812	120,473
Rockfish					158	200								358	7,470
Rockfish	Frozen	46,358	108,298	141,379	49,783	97,428	34,707	200	822		397	3,511	182	483,065	286,120
Rockfish Fillets	Frozen	755												755	755
Sablefish							1,800							1,800	37,301
Sablefish	Frozen	234,034	157,044	488,960	514,175	331,238	143,600	1,000	32,976	25,568	67,807	42,047	19,584	2,058,033	1,932,852
Sablefish Fillets	Frozen														
SALMON:															
Chinook				2,475	6,028	53,873	14,482	1,200			18,050		8,283	104,391	89,201
Chinook	Frozen	236,522	86,490	61,719	146,533	309,969	10,543	40,476	284,958	170,130	134,351	363,582	42,057	1,887,330	771,298
Chum	Frozen	272,321	80,544	189,409	394,707	206,518	141,899					43,420	39,412	1,368,230	1,067,552
Chum	Fresh														65,520
Pink	Frozen	17,357	10,670	1,750	37,040	17,966	13,880			1,170	14,240	42,131	22,718	178,922	125,324
Silver															1,595
Silver	Frozen	555,756	306,873	723,372	400,108	859,429	58,471	250	498	62,380	246,537	460,308	150,347	3,824,329	2,051,028
Sockeye	Frozen					9,771								9,771	296,546
Unclassified	Frozen	89,233	714	51,195	1,551	960	832		4,100		37,718	27,263	12,619	226,185	
Smelt															
Fillets	Frozen					585			1,031					1,616	
Sole Fillets	Frozen														
Steelhead Trout	Frozen														9,022
Miscellaneous	Frozen		15,217	9,954	1,064	680	454							27,369	
Clam, meat															
Clam, meat	Frozen								565					565	53,875
Crab	Frozen											1,120		1,120	4,358
Crabmeat															2,400
Crabmeat	Frozen	990	28,075	21,600							26,910	45,980	19,880	143,435	81,587
Shrimp	Frozen														5,760
Shrimpmeat				240		11,810	17,700	3,800						33,550	53,450
Shrimpmeat	Frozen	46,620	32,180		15,335	16,304	22,060	22,220	48,541	8,320	21,285	45,048	62,596	340,509	163,842
Total Fresh				**2,715**	**6,186**	**65,883**	**487,047**	**179,784**	**70,967**		**18,050**		**8,283**	**838,915**	**381,951**
Total Frozen		**2,596,682**	**1,295,996**	**3,325,711**	**2,588,639**	**2,934,661**	**505,421**	**423,070**	**1,560,121**	**1,100,114**	**1,424,627**	**2,477,975**	**2,277,874**	**22,510,891**	**13,466,926**
GRAND TOTAL		**2,596,682**	**1,295,996**	**3,328,426**	**2,594,825**	**3,000,544**	**992,468**	**602,854**	**1,631,088**	**1,100,114**	**1,442,677**	**2,477,975**	**2,286,157**	**23,349,806**	**13,848,877**
Cured Fish:															
Codfish, salted	Lbs.														
Herring, salted	Tcs.														13
Herring, salted	Bbls.	6							5	366	67	642		1,086	514
Herring, salted	½ Bbls.	12		138						2,769	1,947	4,448		9,314	8,290
Salmon, mild cured	Tcs.	84	5	4	21	43	88	438	877	731	338	119	50	2,798	5,376
Salmon, mild cured	½ Tcs.														51
Salmon, salted	½ Tcs.		25						2			12		39	426
Salmon, salted	Bbls.		117	45		56	49	50	329	687	127	342	17	1,819	4,411
Salmon, salted	½ Bbls.														415
Unclassified	Bbls.											101		101	
Miscellaneous:															
Livers	Frozen														
Grayfish—Soupfin	Lbs.	5,178	791	396	504	7,167		13,503	6,552	2,280	7,488	4,310	1,125	49,294	60,888
Halibut—Viscera	Lbs.	12,519	9,913	9,150	3,401		2,887	199,891	165,956	234,287	98,034	126,480	27,040	889,558	704,616
Sable—Viscera	Lbs.	20,203	62,583	14,807	36,984	47	260	1,162	937	11,480	6,587	76,505	18,495	250,050	184,748
Unclassified	Lbs.	6,573	10,785	12,263	8,895	53,370	85	11,435	11,817	3,060	11,686	7,095	750	137,814	212,809

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1947—LOS ANGELES-SAN PEDRO AREA FROZEN FISH HOLDINGS BY MONTHS—1947

SPECIES	DEC. 1946	JAN. 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Bait and Animal Food	372,060	294,892	301,976	366,723	343,923	356,702	*	167,238	156,023	161,895	85,954	86,375
Cod, haddock, hake and pollock	....	....	....	5,000	....	18,030	....	36,400	26,846	51,279	45,138	42.038
FILLETS:												
Cod	51,078	56,033	37,833	58,443	55,833	31,164	....	5,024	12,275	20,033	115,599	79,501
Flounder (incl. sole)	91,432	91,791	53,851	58,757	34,931	35,645	....	31,756	40,435	48,704	39,706	50,374
Haddock	3,608	....	....	....	....	....	....	14,500	430,603	5,825	....	....
Lingcod	21,694	28,571	27,761	25,657	17,157	5,971	....	6,071	1,648	726	600	1,000
Mackerel	1,481	1,728	43,020	1,568	....	....	....	1,000	500	....	300	400
Other fillets	186,823	127,602	124,068	142,594	199,627	242,925	....	57,488	56,349	77,784	17,500	28,589
Flounders (incl. sole, fluke, California halibut, etc., ex. fillets)	63,161	38,610	30,202	32,779	27,314	24,098	....	48,173	64,475	162,841	143,205	146.298
Halibut	563,578	387,876	351,493	300,482	217,378	196,553	....	474,262	124,847	756,241	768,313	852.289
Herring, sea	830	8,827	10,371	580	520	490	....	....	460	370	....	
Mackerel (ex. fillets and Spanish and King)	75,608	72,998	65,668	52,737	45,250	45,938	....	42,205	52,583	87,105	77,902	67,777
Mullet	....	....	....	....	....	....	....	....	....	....	....	....
Sablefish (Black Cod)	392,389	372,026	402,117	362,724	180,054	143,623	....	131,372	111,186	118,415	49,092	49,478
SALMON:												
King or Chinook	117,198	76,608	53,543	35,262	384,609	342,078	....	369,441	374,144	173,693	148,230	140,303
Silver or Coho	233,634	335,936	342,341	514,378	132,401	161,775	....	236,699	243,707	257,040	53,092	88,325
Fall or Chum	500	3,400	9,305	3,775	7,835	2,427	....	1,100	528	384	221,841	237,660
Pink	265,054	263,339	260,462	254,441	178,460	164,435	....	151,486	....	2,997	12,530	1,507
Steelhead Trout	....	3,621	3,436	3,436	3,436	....	....	....	365	....	....	....
Unclassified	427,134	340,883	34,666	32,365	6,615	6,664	....	6,404	573,230	968,782	529,834	707,104
Shad (incl. roe shad)	5,864	5,782	5,488	27,500	4,275	17,630	....	41,989	44,850	45,520	44,089	44,696
Shad roe	49,654	30,684	30,317	6,740	29,057	29,930	....	6,273	6,011	5,810	5,472	5,854
Smelt	363,892	364,049	294,876	249,339	268,259	264,972	....	265,911	189,518	188,780	178,626	178,963
Swordfish	128,151	119,270	105,576	69,783	68,403	55,268	....	59,605	147,500	186,235	223,889	203,947
Tuna	73,108	71,280	75,056	65,527	54,422	49,984	....	136,785	193,219	279,603	195,675	177,739
Unclassified saltwater fish	1,474,874	1,347,478	1,396,564	1,271,058	1,305,017	1,156,708	....	1,091,464	960,143	942,728	905,836	1,340,900
Total	**4,962,805**	**4,443,284**	**4,059,990**	**3,941,648**	**3,564,776**	**3,353,010**	....	**3,382,646**	**3,811,445**	**4,542,790**	**3,862,423**	**4,531,117**

*Data not available.

1947—LOS ANGELES-SAN PEDRO AREA SHELLFISH HOLDINGS BY MONTHS—1947

SPECIES	DEC. 1946	JAN. 1947	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Shellfish:							*					
Clams	62,694	63,270	54,775	52,190	46,545	44,313	....	40,779	41,519	39,866	38,488	38,139
Crab (incl. crabmeat)	38,294	41,700	43,185	46,400	49,319	58,101	....	33,469	28,700	36,611	28,243	31,268
Lobster tails (spiny)	117,602	173,754	226,768	246,101	205,095	166,389	....	154,794	160,404	159,108	156,651	169,214
Oysters	51,747	30,520	23,081	22,093	21,852	25,880	....	24,173	24,175	22,624	22,466	24,417
Scallops	210,440	181,062	137,938	113,625	89,485	130,819	....	156,326	275,713	218,298	192,297	177,077
Shrimp (incl. shrimp meat)	1,769,428	1,062,281	899,608	1,010,795	906,334	853,024	....	1,086,024	921,976	1,175,793	1,594,800	2,422,132
Squid	108,162	30,016	30,861	31,355	90,981	91,818	....	121,821	71,836	123,885	95,818	97,381
Unclassified shellfish	181,956	227,940	278,042	241,664	245,728	242,597	....	198,156	152,516	130,857	101,222	125,182
Total shellfish	**2,540,323**	**1,811,543**	**1,694,258**	**1,764,223**	**1,655,339**	**1,612,941**	....	**1,815,542**	**1,676,839**	**1,907,042**	**2,229,985**	**3,084,810**
Total Fish and Shellfish	**7,503,128**	**6,254,827**	**5,754,248**	**5,705,871**	**5,220,115**	**4,970,861**	....	**5,198,188**	**5,488,284**	**6,449,832**	**6,092,408**	**7,615,927**

*Data not available.

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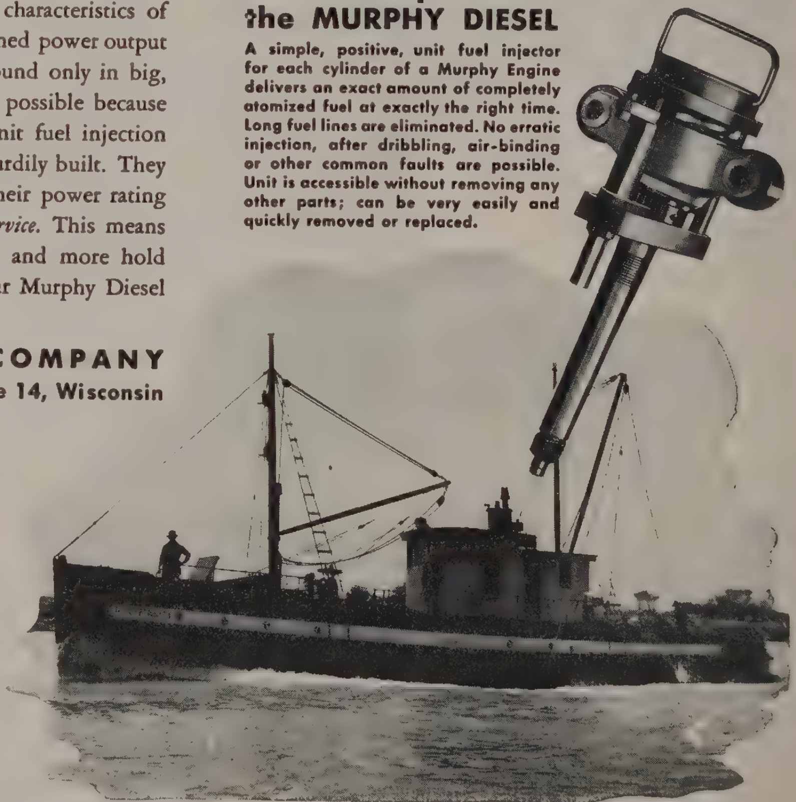


Engineered for Dependable Service

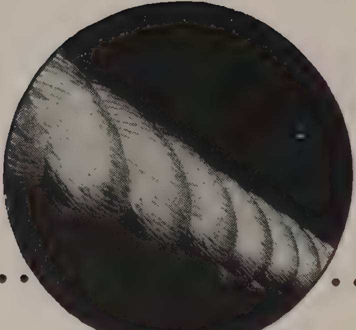
MURPHY-POWERED!

A 135 H. P. Murphy Diesel Engine with 3:1 Twin Disc reverse and reduction gear powers the MV "Pacinaco 1" owned by British Columbia Packers, Ltd., Vancouver. Length 70' 8", width 12' 1", depth 5' 0"; gross tonnage—33; speed 9 knots; propeller—3 blade 44" dia. x 39" pitch,

SAN FRANCISCO, CALIFORNIA– Oswald Machine Works
SEATTLE, WASHINGTON—Alaska Pacific Supply
VANCOUVER, B. C.—Lipsett Engine & Mfg. Co.

1947 -- OREGON FROZEN FISH HOLDINGS -- 1947

Species	December, 1946	January 1947	February	March	April	May	June	July	August	September	October	November
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Bait and Animal Food	60,712	72,430	75,100	103,847	106,030	37,487	33,062	33,412	31,412	35,901	25,916	28,679
Cod, rock or red	17,915	20,958	45,469	69,925	80,253	25,521	13,345	276	149	419	377	381
Cod, true	....	....	....	....	32,400	330	....	....	10,248			
FILLETS:												
Cod, rock or red	78,299	71,988	64,941	53,606	24,821	24,330	12,616	42,812	12,569	14,919	15,625	55,815
Cod, true	43,914	43,806	42,540	65,442	18,426	39,600	33,597	4,374	475	10,907	4	170
Flounder	6,804	4,964	2,814	344	24	11,419	11,249	10,928	9,447	17,315	15,060	19,575
Lingcod	58,454	50,639	49,908	31,408	8,877	49,224	30,793	31,407	24,220	20,292	9,092	9,390
Mackerel	....	1,000	700	....	....	....	....	....	....	....	....	....
SOLE: Dover	44,094	43,177	38,585	36,440	34,656	30,023	59,671	91,897	141,349	129,199	81,149	23,989
English	116,552	46,848	30,525	20,410	23,959	3,556	7,790	37,955	92,777	117,605	70,385	17,990
Petrale	49,119	36,184	35,505	20,042	22,038	71,856	43,750	156,135	85,229	87,906	3,734	11,204
Rex	....	....	....	....	....	....	....	250	250			
Other	17,740	4,775	8,740	8,135	6,975	29,239	6,885	65,300	8,845	14,130	....	10
Other Fillets	8,833	8,598	7,353	15,545	15,556	8,452	21,222	23,342	3,410	5,160	7,730	8,545
Flounder, etc.	2,075	1,128	1,008	120	120	25,478	24,960	21,422	80	....	....	....
Halibut	522,884	468,148	407,419	230,083	93,246	239,360	423,795	377,068	534,624	518,381	509,014	433,171
Herring, sea	....	7,000	4,500	....	....	....	....	....	3,709	10,158	25,818	6,978
Lingcod	50,632	47,520	42,660	41,318	57,005	19,600	15,846	17,540	12,300	16,348	14,397	12,058
Mackerel	....	10	449	790	542	556	90	....	....	....	....	....
Sablefish	308,651	337,324	276,438	215,884	142,419	66,395	52,364	28,884	20,123	34,635	33,271	38,886
SALMON:												
King or Chinook	315,520	255,100	137,841	129,725	65,500	60,476	11,196	29,147	238,700	116,594	108,430	166,272
Silver or Coho	180,302	133,451	72,994	16,614	11,914	14,177	3,675	63,056	51,096	47,408	135,733	142,667
Fall or Chum	172,117	93,159	86,384	57,633	28,264	....	....	....	....	8	8,666	20,578
Pink	....	....	....	....	....	....	....	100	100	100	100	100
Steelhead	33,770	30,738	28,037	27,181	24,768	973	807	5,957	14,931	30,645	23,724	30,484
Unclassified	651,644	580,045	515,996	....	....	119,830	313,542	320,357	641,653	530,172	437,310	404,124
Shad	2,940	2,845	2,845	2,845	762	59,111	95,373	74,468	57,907	57,832	57,832	58,012
Shad roe	1,205	875	690	620	500	3,900	6,020	3,750	3,750	3,590	3,235	3,110
Smelt	108,675	87,331	74,542	47,139	25,153	68,227	64,768	60,618	57,201	45,371	25,909	20,938
Tuna	277,863	1,675	1,675	....	40,401	1,675	2,111	4,197,810	5,758,706	1,938,983	4,149,971	2,132,651
Unclassified	47,526	34,805	32,497	26,750	26,280	35,230	25,135	53,730	100,746	67,732	33,266	28,480
Total	**3,178,300**	**2,436,524**	**2,088,155**	**1,221,846**	**890,916**	**1,046,135**	**1,313,662**	**5,751,995**	**7,916,006**	**3,871,710**	**5,795,768**	**3,674,257**
Shellfish												
Clams and clam meat	12,100	11,821	3,346	21,069	18,0908	16,666	13,953	11,766	9,526	1,178	6,399	8,112
Crabs and crab meat	1,911	1,231	879	711	791	16,901	15,411	7,450	3,295	52,436	52,856	37,245
Lobster tails, spiny	238	839	839	1,005	2,034	8,343	14,190	7,984	11,450	2,863	2,297	1,164
Oysters	7,753	8,034	6,927	11,892	10,260	10,309	7,564	6,319	4,026	2,016	480	1,050
Shrimp and shrimp meat	41,427	48,962	25,972	41,310	28,382	13,808	10,011	14,302	23,282	9,142	22,249	40,275
Squid	1,500	4,870	3,060	1,230	720	9,930	7,220	4,360	8,170	6,540	5,540	5,005
Other	1,002	294	1,660	1,885	5,736	4,029	2,459	3,775	1,745	1,975	4,205	1,613
Total	**65,931**	**76,051**	**42,683**	**79,102**	**66,831**	**79,986**	**70,808**	**55,956**	**61,494**	**76,150**	**94,026**	**94,464**
TOTAL FISH AND SHELLFISH	**3,244,231**	**2,562,575**	**2,130,838**	**1,300,948**	**957,747**	**1,126,121**	**1,384,470**	**5,807,951**	**7,977,500**	**3,947,860**	**5,889,794**	**3,768,721**
Cured Fish												
Herring, salted, cured	750	8,250	5,195	7,076	1,895	6,080	8,470	7,095	6,265	6,270	5,095	6,410
Salmon, mild cured	9,857	9,075	9,075	8,250	6,922	6,087	4,300	....	3,200	2,300	6,300	5,640
Other, salted	5,770	2,300	6,286	7,055	5,877	2,364	650	2,339	2,430	5,732	10.191	5,928
Smoked fish	7,980	1,800	3,196	5,648	4,140	3,910	3,390	2,700	2,430	3,608	4,541	2,710
Total	**24,357**	**21,425**	**23,752**	**28,029**	**18,834**	**18,441**	**16,810**	**12,134**	**14,325**	**17,910**	**26,127**	**20,688**



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Marine Hardware Company,
509 Beacon Street, San Pedro, California.
San Diego Marine Hardware, 1502 India
Street, San Diego 1, California.

Variety	January	February	March	April	May	June	July	August	September	October	November	1947 Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Silver drwn				1,220	19,371	91,872	316,343	100,074	224,490	39,850	349	793,569
rd								2,470	5,640	106,986	28,872	143,968
Unclassified				682	16,411	164,659	324,541	216,134	815,606	1,617,736	236,320	3,392,089
Frozen			7,385									7,385
B. C. Import					34,977	286,809	51,468			8,576	30,000	411,830
Columbia River						7,298	3,951	2,967	8,885			23,101
Alaska	306,873	723,372	400,108	859,429	58,471	250	498	62,380	246,537	460,308	150,347	3,268,573
Total Silver	**306,873**	**723,372**	**407,493**	**861,331**	**129,230**	**550,888**	**696,801**	**384,025**	**1,301,158**			**5,361,171**
Sockeye					248	172		972	43,996			45,388
Import				9,771								9,771
Unclassified	714	51,195	1,551	960	832		9,877		37,718	51,269	23,347	177,463
Total Salmon, fresh	**8,305**	**47,395**	**110,085**	**320,852**	**1,205,126**	**2,129,005**	**3,150,859**	**1,745,518**	**5,624,113**	**5,531,344**	**3,878,781**	**23,751,383**
Total Salmon, frozen	**502573**	**1,081,795**	**1,025,861**	**1,760,557**	**416,763**	**483,093**	**381,397**	**233,680**	**522,846**	**1,286,604**	**622,696**	**8,317,865**
Shad					3,968	1,797						5,765
Selt Eulachon, rd		22,250	24,980									47,230
B. C. Import frozen					183,753							
Silver	9,417	7,100		4,130	28,029	40,762	110,265	71,915	42,602	67,527	101,712	483,459
Sole, English rd	28,899	297,582	331,173	59,555	64,420	66,300	31,133	55,620	140,220	63,960	179,685	1,318,547
Unclassified	11,881	23,986	8,005	7,229	24,878	25,568	45,145	15,355	15,380	6,025	20,375	203,827
Petrale	3,333	10,728	17,020	33,390	514,734	468,218	746,670	195,015	183,115	166,285	122,925	2,461,433
Turbot												
B. C. Import				9,852								9,852
Tuna, Albacore							41,241	53,110	4,591	12,878		111,820
B. C. Import	35,135		4,040				23,048	32,244	4,590	29,726		128,783
Fillets, Sole	2,920	2,225	6,292	2,096	14,970	9,393	13,658	1,720	1,470	5,571	9,590	69,905
Frozen						1,064			2,319	6,560		9,943
B. C. Import		6,955		25,032	1,948		4,990				1,846	40,771
Alaska												
Import, frozen	33,000	31,000	99,035	44,305	16,800	27,150	84,851	53,000		92,264	84,127	565,532
Unclassified	3,773	2,194	16,306	19,803	15,208	3,075	6,233	3,300	9,745	5,020	9,855	94,512
Miscellaneous	6,152	13,640	16,357	21,078	10,730	4,927	6,155	5,349	7,525	9,328	5,784	107,025
Frozen		1,500	3,372								350	5,222
Alaska	15,217	9,954	1,064	680	454							27,369
B. C. Imort			2,425		5,464	6,200						14,089
Total Fish, ex-vessel	**210,069**	**745,449**	**873,645**	**409,894**	**1,701,156**	**1,691,433**	**4,186,061**	**4,825,934**	**2,196,855**	**1,447,882**	**1,507,233**	**19,795,611**
Total Fish, fresh	**87,995**	**190,644**	**239,422**	**436,797**	**2,572,158**	**3,270,303**	**2,535,904**	**1,705,437**	**5,616,240**	**5,512,102**	**4,171,748**	**26,388,800**
Total Fish, Frozen	**1,321,158**	**3,391,897**	**2,725,673**	**3,217,034**	**890,852**	**936,023**	**1,724,954**	**1,176,594**	**1,473,121**	**2,937,623**	**2,[illegible]32,476**	**22,377,455**
GRAND TOTAL	**1,619,222**	**4,327,990**	**3,838,740**	**4,113,775**	**5,164,166**	**5,897,759**	**8,446,919**	**7,703,015**	**9,236,216**	**9,947,607**	**8,211,457**	**63,561,866**

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1947—RECEIPTS BY SEATTLE WHOLESALE DEALERS—1947

Variety		January	February	March	April	May	June	July	August	September	October	November	1947 Total
		Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Carp						806	1,200	150		1,000	600		**3,756**
Cod, true	drsd	34,624	49,912	100,406	19,055	55,632	75,590	74,352	3,410	46,355	44,585	52,858	**556,829**
	rd					1,506	145,877	62,839	7,565	22,085	34,780	66,545	**341,197**
	Alaska frozen	221	130		357							154	**862**
	B. C. Import												
	Unclassified	8,447	7,762	3,732	5,375	8,096	1,718	907	3,293	120	101	523	**40,104**
Dolly Varden Trout						1,925	2,633	1,648	3,269	3,942			**13,417**
Flounder	rd	8,229	12,067	7,635	5,315	8,213	2,820	2,705	7,675	23,190	45,639	143,714	**267,202**
	Other	8,203	12,971	1,000	300	75						1,879	**24,428**
	B. C. Import				199								**199**
Halibut	drsd					255,355	155,041	1,274,000	3,775,676				**5,460,072**
	B. C. Import					1,054,696	1,260,704	274,752	102,273	39,380	1,200	30,528	**2,763,533**
	B. C. Import frozen		936		188,873		58,392	38,278	30,000		33,364	27,650	**377,493**
	Alaska					453,065	174,784	70,967					**698,816**
	Alaska frozen	457,972	1,606,146	1,011,396	950,539	77,050	351,886	1,184,982	829,277	871,000	1,397,748	1,906,909	**10,644,905**
	Unclassified					89,073	57,188	1,400	1,980	97,581	64,336	27,815	**339,373**
Total Halibut		**457,972**	**1,607,082**	**1,011,396**	**1,139,412**	**1,929,239**	**2,057,995**	**2,844,379**	**4,739,206**	**1,007,961**	**1,496,648**	**1,992,902**	**20,284,192**
Herring	rd		11,640	29,465	7,745								**48,850**
	B. C. Import										10,000		**10 000**
	Alaska, Import				53,200								**53,200**
	Unclassified				98,436								**98 436**
Lingcod	drsd	86,857	99,911	124,566	33,215	149,198	162,821	357,334	114,413	240,184	92,065	61,430	**1,521 994**
	rd									161,151	53,680	26,556	**240,387**
	B. C. Import			696	101,649	23,398	7,462	328					**133 533**
	B. C. Import frozen				31,627						80,396	83,526	**195,549**
	Alaska	11,698	30,097	16,947	79,717		4,405			440	5,817	1,416	**150,537**
	Unclassified		14,562	23,398	8,098	25,262	8,939	8,277	8,257	20,692	5,440	8,773	**131,698**
Perch		205	1,035	17,124	23,218	5,547	125		100	160	975	2,152	**50,641**
Mackerel													
Rockfish	drsd	16,294	11,878	26,977	45	538	1,000	500	9,339	54,250	29,400	8,957	**159,178**
	rd	50,913	264,592	237,294	84,863	259,925	147,761	357,475	181,314	300,910	183,597	473,104	**2,541,748**
	Fillets												
	B. C. Import				1,208		88						**1,296**
	B. C. Import frozen										4,132		**4,132**
	Alaska	108,298	141,379	49,941	97,628	34,707	200	822		397	3,511	182	**437,065**
	Unclassified	9,546	15,437	7,518	2,823	6,030	5,201	3,766	3,540	20,848	8,954	4,502	**88,165**
Sablefish	drsd			419	1,345	931	3,961	24,815	116,740	626,055	425,550	173,918	**1,273,734**
	rd		146			215	175	11,866	6,130	9,780	6,542	160	**35,014**
	Fillets												
	B. C. Import						175						**175**
	B. C. Import frozen												
	Alaska	157,044	488,960	514,175	331,238	145,400	1,000	32,976	25,568	67,807	42,047	19,584	**1,825,799**
	Unclassified	66	125	36		228	61	16,135	12,370	120,373	90,056	50,936	**290,386**
SALMON:													
Chinook	drwn			28,192	171,833	373,505	358,077	850,757	200,385	71,000	7,975	364	**2,062,088**
	rd	32	296		58				3,149		2,361	1,418	**7,314**
	frozen			13,000							10,000		**14,000**
	Unclassified		44,624	69,714	47,722	284,795	288,798	657,987	422,913	196,869	56,148	29,719	**2,099,289**
	B. C. Import	8,273		6,151	45,464	461,337	930,030	943,617	787,226	366,255	223,211		**3,771,564**
	B. C. Import frozen	17,282	54,350	25,537	35,092		84,463	86,064		90,000	194,503	40,000	**627,291**
	Columbia River								4,374	28,620			**32,994**
	Alaska	86,490	64,194	152,561	363,842	25,025	41,676	284,958	170,130	152,401	363,582	50,340	**1,755,199**
Total Chinook, fresh		**8,305**	**47,395**	**110,085**	**318,950**	**1,134,119**	**1,673,105**	**2,452,361**	**1,418,047**	**680,794**	**289,695**	**39,734**	**8,077,640**
Total Chinook, frozen		**103,772**	**116,069**	**185,070**	**345,061**	**10,543**	**124,939**	**371,022**	**170,130**	**224,351**	**568,035**	**81,057**	**2,301,099**
Chum	rd										79,289	139,636	**218,925**
	Unclassified									7,040	1,063,090	1,494,768	**2,564,898**
	B. C. Import					191,138	357,904				1,471,094	2,177,400	**4,197,536**
	Alaska	80,544	189,409	394,707	206,518	141,899					43,420	39,412	**1,095,909**
Total Chum		**80,544**	**189,409**	**394,707**	**206,518**	**333,037**	**357,904**			**7,040**			**1,569,159**
Pink							90	2,195	4,854	500	233	131	**8,003**
	Unclassified									3,837,162	485,310	336	**4,322,808**
	B. C. Import										490,876	36,000	**526,876**
	Alaska	10,670	1,750	37,040	17,966	13,880			1,170	14,240	42,131	22,718	**161,565**
Total Pink		**10,670**	**1,750**	**37,040**	**17,966**	**13,880**	**90**	**2,195**	**6,024**	**3,851,902**			**3,941,517**

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CLAMS

Clam canning was sharply restricted on the Pacific Coast in 1947, in part due to market reversals, and to some extent as result of the application of severe, and perhaps capricious, specifications by federal food authorities.

Clam canning suffered severe reverses all along the Pacific Coast in 1947, the aggregate production of only 63,138 cases being the smallest since the depression years.

The reversal was most serious in the case of hardshell clams, where federal food specifications made successful packing difficult. Furthermore, application of these restrictions resulted in delays in the marketing of the 1946 pack of Pacific hard shell clams to such an extent that a very large portion of that substantial pack was held-over into 1947 before it could be marketed.

Razor clam canning was on a much more normal basis in 1947, although the Alaska production in particular suffered shrinkage, probably as result of a lack of market enthusiasm. Prices paid to diggers were high and with the market prices dropping operators were cautious about building inventory at excessive cost.

1947—PACIFIC CANNED CLAM PACK—1947

Razor Clams

Company	Cannery Location	1-Lb. Talls (4-doz.)	No. 1 Eastern Oyster (4-doz.)	½-Lb. Flat (4-doz.)	No. 2 (2-doz.)	No. 10 (½-doz.)	Total Cases)
ALASKA							
Alaska-Seldovia Packers, Inc.	Seldovia			409			409
Aurora Packing Co.	Cordova			664	105		769
Cape Douglas Canning Corp.	Swikshak Bay			3,064			3,064
Gilbert, W. R. & Co.	Cordova			2,564			2,564
Halferty, G. P. & Co.	Cordova			12,443			12,443
Kester, R. A.	Polly Creek			90			90
Smith Packing Co., S. E.	Cordova			28			28
Total, Alaska, as they run				**19,262**	**105**		**19,367**
Total, Alaska, basis 48 halves				**19,262**	**131**		**19,393**
WASHINGTON AND OREGON							
Chinook Packing Co.	Chinook, Wash.	4		1,654			1,658
Copalis Canning Co.	Seattle, Wash.			5,291			5,291
Deep Sea Products Co.	Aberdeen, Wash.			7,400			7,400
Halferty, G. P. & Co.	Aberdeen, Wash.			14,540			14,540
Mokawk Packing Co.	Moclips, Wash.			1,712			1,712
Plumb & Edney	Copalis Beach, Wash.			2,063			2,063
Strand Fisheries	Hoquiam, Wash.			3,200			3,200
Tokeland Crab & Fish Co.	Tokeland, Wash.			250			250
West Coast Fish Co.	Aberdeen, Wash.			5,194			5,194
Total, Washington and Oregon, as they run		**4**		**42,024**			**42,028**
Total, Washington and Oregon, basis 48 halves		**8**		**42,024**			**42,032**
Grand Total Razor Clams, as they run		**4**		**61,286**	**105**		**61,395**
Grand Total Razor Clams, basis 48 halves		**8**		**61,286**	**131**		**61,425**
Hardshell Clams							
Bangor Packing Co.	Everett, Wash.						(a)
Bugge Canning Co.	Sequim, Wash.	105		1,290		59	(b) **1,454**
Hallstead Packing Co.	Seldovia, Alaska			22			**22**
Iwersen Canning Co.	Point Roberts, Wash.	72					**72**
Total Hardshell Clams, as they run		**177**		**1,312**		**59**	**1,548**
Total Hardshell Clams, basis 48 halves		**354**		**1,312**		**47**	**1,713**
Grand Total, All Clams, as they run		**181**		**62,593**	**105**	**59**	**62,943**
Grand Total, All Clams, basis 48 halves		**362**		**62,598**	**131**	**47**	**63,138**

(a) Pack consisted entirely of 1,565 cases of clam juice in No. 10 tins, ½-doz. per case.
(b) Bugge Canning Co. also canned 300 cases nectar, bottled, 8-oz., 24 to case; and 350 cases, bottled, quarts, one dozen to case.

In Washington the 1947 season quota was reduced 450,000 lbs. because scientific investigation of the razor clam population had shown relatively poor seeding of the beaches through the spawnings of preceding seasons, while the digging drain by tourists had been excessive. The clam season in that year opened March 1, instead of Feb. 1 as in the year previous, and no commercial digging was permitted on Saturdays or Sundays.

California Clam Canning Is Entirely Suspended

California canning of Pismo clam meats brought from Mexican beaches was entirely suspended in 1947. This operation had reached spectacular heights during the war years, when clams of all kinds were extremely scarce. However, the market demand for the product declined sharply in 1946, and fell to the vanishing point in 1947, ending for the time being at least a venture which in 1945 canned more clams than all the other operations on the Pacific Coast combined.

More Clams Frozen

A growing tendency in connection with the marketing of Pacific razor clams each year takes an increasing portion of the commercial catch for freezing. As many of the clams are frozen in the shell for crab bait, it is difficult to segregate the portion of

Pacific Clam Pack in Previous Years

YEAR	Alaska, Cases	Puget Sound, Cases	Washington and Oregon Coast, Cases	British Columbia, Cases	Total
1913..........	....	5,800	63,240		69,040
1914..........	45	8,313	67,616	....	75,974
1915..........	....	9,457	78,472	....	87.929
1916..........	6,436	7,405	32,707	....	48,548
1917..........	49,923	17,680	20,946	....	94,049
1918..........	45,284	17,715	21,821	5,500	86,415
1919..........	26.083	7,668	44,843	1,595	78,594
1920..........	6,641	8,868	37,777	....	59,286
1921..........	1,600	8,327	64,407	6,000	80,334
1922..........	22,807	12,554	74,109	6,000	120,020
1923..........	52,901	12,819	38,038	10,550	114,784
1924..........	55,243	13,020	33,697	11,026	118.830
1925..........	69,522	10,719	35,579	16,888	132,138
1926..........	26,069	9,663	46,962	16,318	95,555
1927..........	16,969	11,677	84,065	12,861	125,781
1928..........	7,415	10,833	67,763	13,070	106,174

RAZOR CLAMS
(Basis 48 halves per case)

YEAR	Alaska	Washington and Oregon	British Columbia	Total
1929..	28,270	63,526	13,050	**104,846**
1930..	33,937	54,746	12,623	**100,324**
1931..	43,460	53,412	8,658	**105,440**
1932..	69,147	46,002	8,457	**123.606**
1933..	38,213	38,772	....	**76,985**
1934..	31,655	30,232	....	**61,656**
1935..	34,864	53.057	....	**87,921**
1936..	29,900	49,692	....	**79,592**
1937 .	29,044	20,373	....	**49,417**
1938..	42,305	64,167	....	**106,472**
1939..	35,258	60,205	....	**95,463**
1940..	41,556	51.705	....	**93,261**
1941..	22,736	27,629	....	**50,365**
1942 .	46,703	3,999	5,568	**56,270**
1943..	48,692	1,732	5,821	**56,275**
1944	47,050	3,512	**	**50.562**
1945..	43,476	38,152	**	**81,628**
1946..	51,594	51,063	**	**102,657**
1947..	19,393	42,032	**	**61,425**

HARD SHELL CLAMS
(Basis 48 halves per case)

YEAR	Alaska	Washington	*British Columbia	Total
1929..	....	19,514	21,547	**41,061**
1930 .	600	27,735	18,738	**46,073**
1931..	2,600	19,516	18,043	**40,159**
1932..	76	13.264	9,201	**22,511**
1933..	....	22,438	20,432	**45,163**
1934..	....	25,880	11,630	**37,510**
1935..	....	37,249	20,418	**57,667**
1936..	....	45,222	25,158	**70,330**
1937..	....	45,788	25,174	**70,962**
1938..	....	40,007	44,310	**84,317**
1939..	....	39,165	10,862	**50,027**
1940..	....	35,250	7,151	**42,402**
1941..	....	22,380	6,772	**29,152**
1942..	....	10,972	12,240	**23.212**
1943..	2,457	2,902	11,642	**†34.001**
1944..	11,630	19,863	**	**†71,024**
1945..	6,029	11,752	4,693	**22,474**
1946..	14,441	20,574	23,867	**98,826**
1947..	22	1,691	**	**1,713**

NOTE:—Segregation between razor and hardshell varieties not available prior to 1929. However, in those years most Alaska and all Washington-Oregon coast production was razor clams, while Puget Sound figures are all hardshell clams. Prior to 1929 figures are cases "as they run," but with halves counted 96 to the case.

*British Columbia figures for years from 1932 to 1947 include some razor clams.

**British Columbia totals not available.

†Total includes clams canned in California from clam meats produced in Mexico, 17,000 cases in 1943, 39,531 cases in 1944, and 225,299 cases in 1945, and 39,944 cases canned in California in 1946.

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WASHINGTON RAZOR CLAM PRODUCTION

Year	Copalis Beach			Grayland Beach			Long Beach			Kalalock Etc.	Total Catch All Beaches
	Number of Digs	Total Catch in Pounds	Catch per Dig Pounds	Number of Digs	Total Catch in Pounds	Catch per Dig Pounds	Number of Digs	Total Catch in Pounds	Catch per Dig Pounds	Total Catch Pounds	Pounds
1937..	20,695	546,486	26.4	9,026	285,317	31.6	2,986	99,591	33.4	46,478	997,872
1938..	37,064	1,366,441	36.9	20,765	882,619	42.5	9,410	364,383	38.7	44,670	2,650,355
1939..	23,903	846,633	35.4	11,182	433,796	38.7	11,321	653,992	57.7	30,692	1,965,113
1940..	25,343	604,338	23.8	13,582	347,435	25.5	25,115	1,159,123	46.1	14,886	2,125,782
1941..	12,389	406,393	32.8	2,643	111,819	42.3	3,307	222,129	67.2	806	741,147
Reserve	7,965	347,693	43.7								
1942..	5,088	143,148	28.1	814	26,283	32.3	3,941	174,104	44.2	*	343,535
1943..	5,284	164,907	31.2	1,005	24,728	24.1	799	20,627	25.8	*	210,262
1944 .	8,485	409,374	48.2	2,705	105,425	38.9	2,651	108,030	40.7	*	622,829
1945..	14,519	1,124,965	77.5	5,289	512,298	96.9	4,255	418,673	98.4	1,235	2,057.171
1946..	12,387	922,516	74.5	10,548	461,773	43.8	11,109	663,776	59.8	*	2,048.065
1947..	16,681	1,164,321	58.5	6,564	305,122	46.5	9,105	544,657	59.7	*	2,014.100

* The small amount dug is included with Copalis Beach.

the freezing which is for human consumption and the part which is destined for bait.

In the coastal areas adjacent to the beach resorts the demand for frozen clams has been constantly increasing as the popularity of the clams in this form is more widely demonstrated.

Early 1948 Price High

Clam digging on the Oregon beaches began in January on a rather limited commercial basis. Prices as high as 22c per lb. were reported for the limited winter production. Such figures should not be considered as forecasting the probable market at the time when commercial canning begins.

Crab fishermen were reported willing to pay nearly this price for fresh clams for bait.

Alaska Clam Population Believed in Good Shape

Exploitation of the Alaska razor clam populations has been closely regulated for a number of years, with the size limit high and a quota rigidly imposed. Condition of the beaches in the territory appears good, and there has been manifest a gradual resumption of the western-moving tendency which in the '20s took the industry west to the Alaska peninsula, only to have the years of depression shrink it back to the Copper River area.

The new Alaska Fishery Regulations for 1948 provide a uniform closed season for the entire Cook Inlet area so far as razor clams are concerned, with clamming closed during the period from July 10 to Aug. 31.

Frozen Clams Reported

A feature of the Pacific Fisherman Yearbook new with this issue is the table reporting shellfish frozen in the Pacific Northwest, including clams. This table will be found on page 259 of this issue.

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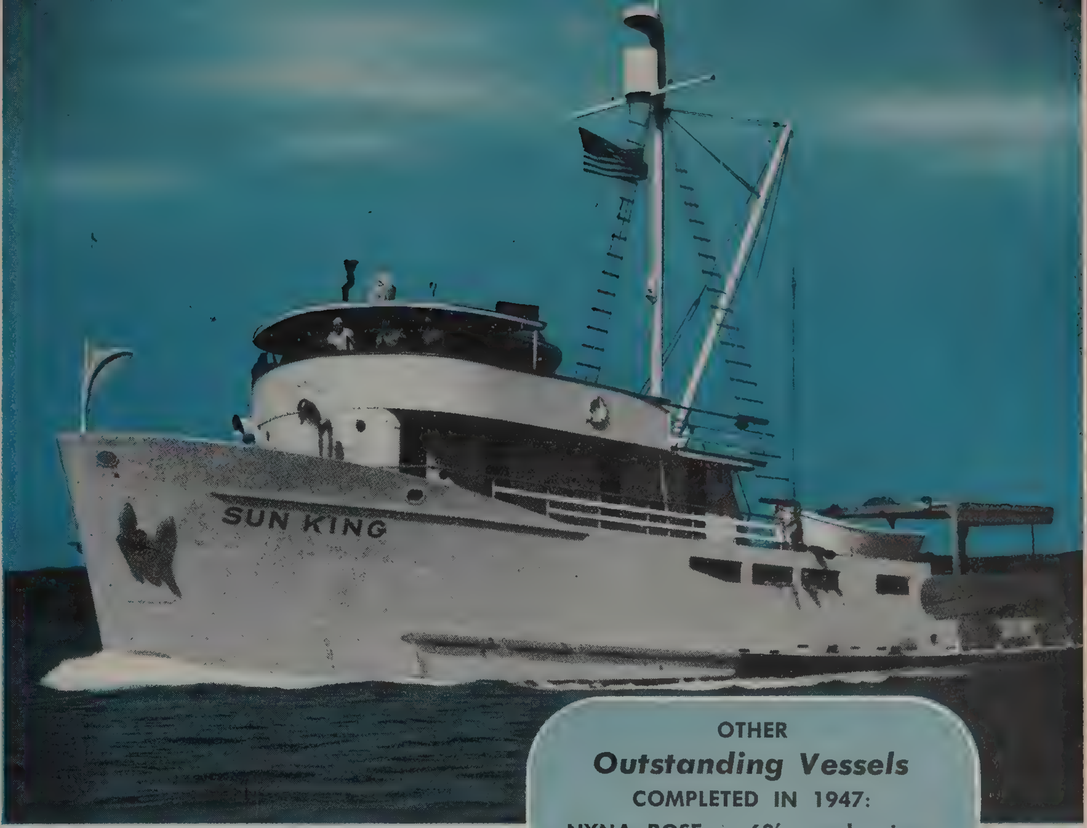

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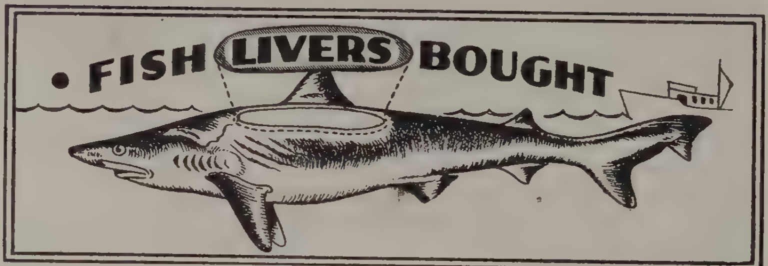

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Wrangell, Alaska	R. A. Armstrong
Juneau, Alaska	Alaska Coast Fisheries
Pelican, Alaska	Engstrom Bros.
Ketchikan, Alaska	Alaska Fish Products
Prince Rupert, B. C.	Canadian Fish & Cold Storage Co. (Subsidiary of B. C. Packers)
Anacortes, Washington	Chase Packing Co.
Anacortes, Washington	Sebastian-Stuart Fish Co.
Aberdeen, Washington	Washington Fish Co.
Hoquiam, Washington	Crown Packing Corp.
Hoquiam, Washington	Paragon Packing Co.
Westport, Washington	Dungeness Crab, Inc.
Westport, Washington	Kaakinen Fish Company
Bay Center, Washington	Haines Oyster Co.
Coos Bay, Oregon	Chas. Feller
Eureka, California	Tom Lazio Fish Company
San Francisco, California	Frank Alioto Fish Co.
Santa Barbara, California	Geo. V. Castagnola
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Vitamin fish-liver oil operations on the Pacific Coast were disturbed in 1947 by a number of factors which made for fluctuating markets and varying interest on the part of the fishermen. Production was reduced as result of some of these factors, and this curtailment exercised a stabilizing influence in a naturally volatile business.

There were a number of conditions disturbing to the Pacific vitamin oil industry in 1947, and some of them continued to exert adverse pressure upon the business as 1948 opened.

The market for Vitamin A suffered a sharp set-back about midsummer of 1947, just prior to the announcement by the headquarters of the Supreme Commander for the Allied Powers in Tokyo that the Japanese had available, and would be permitted to export, a large tonnage of Vitamin A oils.

As an instant reaction indicating advance knowledge of this announcement, American operators withdrew from the market or drastically curtailed their purchasing. The result was a virtual collapse of the business, from which there was a partial rally during the fall months, perhaps as American authorities realized that heavy importations of cheap Oriental oils could destroy a characteristically volatile American industry.

Another shock to Vitamin A fishing came in the fall of 1947 when Distillation Products announced that some of its scientists had succeeded in synthesizing Vitamin A on a basis

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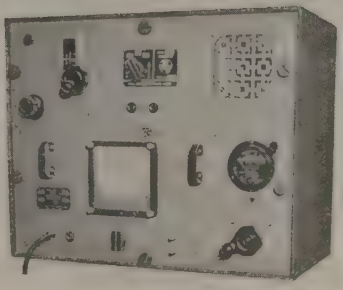

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VITAMIN LIVER LANDINGS AT SEATTLE 1944-1947

Month	1947				1946				1945		1944	
	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscel. Livers	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscel. Livers	Dogfish Livers	Soupfin Livers	Dogfish Livers	Soupfin Livers
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
January	95,705	5,682	5,076	35,603	85,307	4,615	32,051	4,708	83,821	32,127	108,798	66,241
February	83,644	5,200	17,356	41,363	78,406	9,659	21,653	21,061	84,615	31,135	128,834	50,964
March	84,514	6,145	2,389	59,182	65,294	6,148	10,701	9,175	108,602	20,657	122,144	13,187
April	393,002	3,225	....	65,461	367,646	8,992	80	11,380	239,723	1,022	474,615	....
May	199,137	5,969	2	14,119	651,777	10,827	....	56,215	1,012,626	53	701,316	....
June	214,718	7,222	24	27,886	425,464	17,898	561	76,451	212,580	4,815	770,997	1,237
July	178,807	10,350	8,776	41,647	227,741	15,412	8,825	72,815	222,547	28,635	794,350	57,014
August	85,339	2,603	9,717	87,108	167,951	7,748	8,649	92,033	144,206	19,498	847,169	103,883
September	105,742	7,940	8,199	68,945	98,138	5,180	5,712	59,622	119,709	11,941	322,886	58,270
October	67,939	6,181	2,083	47,939	130,953	7,995	3,823	102,349	131,001	12,506	189,504	9,352
November	94,768	5,898	2,540	33,923	146,993	6,450	382	59,715	107,087	409	218,377	13,295
December	....	....	....	....	174,311	13,604	2,315	21,444	102,290	16,553	230,557	33,120
Total	**1,603,315**	**66,415**	**56,162**	**523,176**	**2,619,981**	**114,528**	**94,752**	**586,968**	**2,568,317**	**179,351**	**4,909,547**	**406,563**

which promised to be commercial. This announcement had repercussions which were as severe as they were instant, but from which the business gradually recovered when it became realized that the synthetic A could not play an immediate part in the business.

Liver Fishing Stabilized

During 1947 fishing for soupfin shark livers was pursued by a relatively small fleet of specialists, both during the summer and winter seasons. Obviously, the shark population of the earlier-exploited waters has been brought to a low and probably stable level. This is in sharp contrast to the abundance of the early years of the fishery. Experienced fishermen have been able to make fair shares from soupfinning, but the days of Bonanza trips has passed.

Fishing for dogfish livers was held to moderate levels during 1947, but continued as a profitable sideline for trawling, while it supported a few livering specialists.

Revision of Standards Disturbing to Industry

In January of 1947 the Vitamin A oil industry of the United States was jolted with the announcement of the United States Pharacopoeia Revision Committee, a quasi-official body, that it had adopted a new Vitamin A reference standard to take effect Jan. 1, 1948.

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The old standard was cod liver oil, and the new standard is a solution of crystaline Vitamin A acetate in cottonseed oil. At the time of the announcement it was also stated the standard would be satisfactory for spectro-photometric and Carr-Price measurements as well as biological assays.

It was reported that the conversion factor for the crystaline Vitamin A acetate standard based on spectrophotometric measurements of the non-saponifiable fraction in absolute ethanol was 1894.

A small portion of the industry commenced using this factor immediately to apply to spectrophotometric measurements of naturally occuring oils measured on the whole oil in isopropanol.

The practical effect of this procedure, which neglected among other things to take into account the irrelevant absorbing materials in natural oils, was to disguise the fact that in adopting the new standard a change of approximately 20% had been effected in the size of the biological unit.

When the customers of the oil producers, who must sell on a USP basis (biological assay), measure Vitamin A oils by USP rat growth tests, they now obtain results approximately 20% lower than with the former USP reference cod liver oil No. 3.

Somebody has to take a loss, Vitamin A industry leaders state, and it may be the fishermen, oil producers, or end user. This loss would only be avoided by the end users revising their end label claims downwards 20%.

Vitamin Study Undertaken

In order to assist in developing a reasonable solution to the situation a group of Pacific Coast Vitamin oil producers organized the Temporary Committee for Collaborative Study of Vitamin A.

Erling F. Weeks, Collett-Weeks-Nibecker, Inc., is chairman; T. B. Sanford, F. E. Booth Co. Inc., chairman for technical matters; Hugo DeBussieres, Curtis & Tompkins Ltd., sub-chairman for samples and Abe Mittler, California Packing Corp., sub-chairman for technique.

A committee was organized to do a collaborative biological assay and collaborative spectrometric assay on a set of carefully selected samples

1947—SHARK LIVER AUCTION, SAN FRANCISCO—1947

Vitamin A Potency Classification	Month	Number of Cans	Average Oil Content (Per cent)	Vit. A per Gram of Oil (Units)	Vit. A per Lb. of Liver (Million Units)	Price per Lb. of Liver (Dollars)	Price per Million Units (Cents)
1—50,001	December, 1946	2-M	60.00	40,601	11.050	3.05	27.60
	January, 1947	7-F-15M 4-DF	67 63	37,886	11.620	2.84	24.44
	February	79-F 8-DF	66.80	38,876	11.780	2.88	24.47
	March	17-F-2M 2 MX	67 17	41,383	12.610	3.24	25 68
	April	8-DS	63.50	25,800	8.020	1.58	19.70
	May	45-F-8-M	55 20	37,267	9.330	1.72	18 45
	June	4-M	54.00	48,600	11.900	2.38	20.00
	July	13-F	55.85	37,336	9.465	1.71	18.03
	August	10-M	57 65	48,861	12.720	1.86	14 62
	September	33 M-14 F	54 57	28,285	7.000	0.90	12.82
	October	18F-13M-4MX	60.31	40,953	11.200	1.76	15.71
	November	99 MX	53.95	17,693	4.33	0.65	14.90
50,001—100,000	December, 1946	6-M	62 33	66,031	18.670	5.10	27 32
	January, 1947	7-M-7-F 4-LC	53 46	61,147	14.830	3.89	26.23
	February	11-F-9M 8 MX	62.00	56,617	15.920	3.92	24.63
	March	10-M	57.80	77,069	20.610	5.77	27.99
	April						
	May	22-M	53.73	58,670	14.300	2.77	19.39
	June	1-M	59.00	92,000	24.62	4.94	20.06
	July						
	August	31-M	61.00	78,629	21.76	4.01	18.44
	September						
	October						
	November	4 F 15 M	56.82	77,180	19.89	4.44	22.33
100,001—150,000	December, 1946	181-M	62.35	122,086	34.530	9.88	28.62
	January, 1947	149-M	60 64	135,323	37.225	10.57	28.40
	February	152-M	58.93	134,845	36.040	10.12	28.08
	March	21-M	59.62	124,878	33.770	9.59	28 40
	April	14-M	59.00	144,800	38.750	11.28	29.11
	May	17-M	55 00	137,724	34.360	8.24	23 97
	June	70-M	56.82	139,367	35.920	8.38	23.33
	July	127-M	57.31	143,183	37.230	8.97	24 09
	August	182-M	59.12	135,446	36.320	7.71	21.24
	September	124-M	58.16	141,022	37.200	8.05	21.64
	October	39-M	61.91	115,961	32.570	7.36	22 61
	November	20-M	59.03	131,635	35.27	8.58	24.31
150,001—200,000	December, 1946	14-M	57.29	170,223	44.230	12.66	28.62
	January, 1947	20-M	59.92	158,237	43.012	12 30	28.61
	February	15-M	59.60	175,699	47.500	13.21	27.81
	March	78-M	57 39	160,635	41.820	11.90	28.46
	April	3-M	58.00	165.400	43.510	12.73	29 26
	May	503-M	54.56	168,855	41.710	9.64	23.12
	June	211-M	55.58	167,279	42.170	9.73	23.09
	July	118-M	56.52	162,651	41.700	10.10	24 21
	August	106-	59 56	167,756	45.320	9.46	20.88
	September	39-M	56.58	174,092	44.630	9.52	21 31
	October	56-M	59.46	157,251	42.420	9.48	22.35
	November	24-M	59.00	157,800	42.23	10.27	24 32
Over 200,000	December, 1946						
	January, 1947						
	February	2-M	59 50	206,600	55.760	15.43	27 67
	March	4-M	52 75	234,814	56 185	16 30	29 01
	April						
	May						
	June	1-M	53 18	206,515	49 82	12 00	24 09
	July						
	August						
	September	2-M	43 00	242,600	47 32	10 53	22 25
	October						
	November						

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* F denotes female livers; M denotes male livers; DF denotes dogfish livers; LC denotes Ling Cod livers; MX denotes mixed livers.

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OREGON VITAMIN FISH LIVER LANDINGS

YEAR	SHARK				LING COD	HALIBUT	SABLEFISH	"TRUE" COD	MISCEL. COD	MISCEL. OTHER	Total
	DOGFISH	SOUPFIN	BLUEFIN	MISCEL.							
1942..	156,069	111,182	3,626	5,646	21,862	12,240	2,836	367	187	14,682	**328,697**
1943..	283,817	272,580	17,154	5,496	21,759	10,818	9,142	503	253	2,585	**624,107**
1944..	521,346	190,139	5,821	1,926	37,889	10,269	15,333	449	2,128	1,579	**786,879**
1945..	266,402	70,472	10,948	39	29,228	8,455	10,851	440	6,763	1,012	**404,610**
1946..	373,025	102,753	38,910	469	52,170	4,183	19,991	3,017	1,730	10,730	**606,978**
1947..	178,847	53,475	1,338	116	9,831	614	874	147	2,624	972	**248,838**

representative of the major commercial oils and these samples were Argentine shark liver oil, imported cod liver oil, Pacific Coast dog fish, Pacific halibut, Mexican shark liver oil, Pacific Coast male soupfin, and Pacific sablefish liver oil.

The purpose of this work was to find out the actual conversion factor of these representative fish liver oils against the new USP reference oil.

Four nationally known consulting laboratories were picked for the tests and the Vitamin A industry was also appealed to as well as customers for contributions to sustain the paid biological work, and they were also invited to take part in the collaborative assay.

As a result the committee obtained 40 collaborators in the spectrophotometric assay, and they also obtained the cooperation of four biological laboratories maintained by parmaceutical houses, thus assuring a total of eight collaborators in the biological assay.

It was expected that this work would show that the use of "1894" was invalid; that it was too high; that the actual factor should be around 1600-1700; and that although it was very upsetting to the industry to have to face a change in the size of the units to that degree, it would be better to face it at this time.

Research Work Continues

It was arranged with the Vitamin Committee of the American Oil Chemists Society for all interested parties to meet in Chicago Oct.22-23. At this meeting the Temporary Committee presented a preliminary summary of their collaborative work. The variation between the laboratories was extreme, for each laboratory varied from 1200 to 2400.

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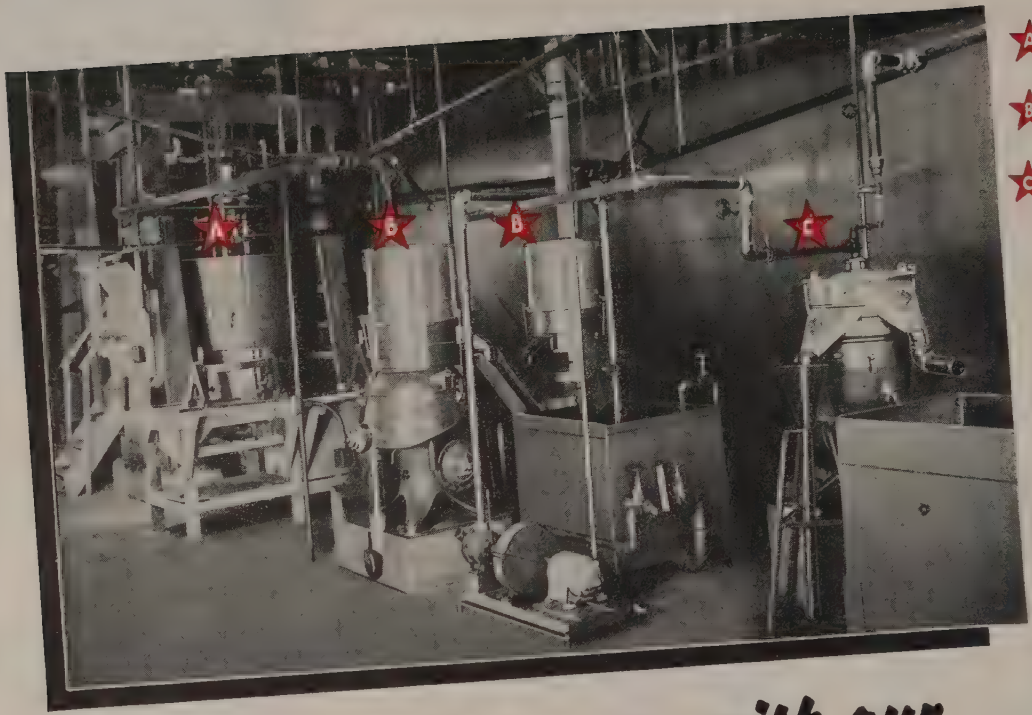

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Fish Liver Receipts by Seattle Dealers—1947

Kind		Dec. 1946	Jan. 1947	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Total
Grayfish (dogfish)..	Lbs.	174,311	95,705	83,644	84,514	393,002	199,137	214,718	178,807	86,339	105,742	67,939	94,768	**1,778,626**
Lingcod............	Lbs.	13,604	5,682	5,200	6,145	3,225	5,969	7,222	10,350	2,603	7,940	6,181	5,898	**80,018**
Soupfin Shark......	Lbs.	2,315	5,076	17,356	2,389	....	2	24	8,776	9,717	8,199	2,083	2,540	**58,477**
Miscellaneous......	Lbs.	21,444	35,603	41,363	59,182	65,461	14,119	27,886	41,647	87,108	68,945	47,939	33,923	**544,620**
Total..........	**Lbs.**	**211,674**	**142,066**	**147,563**	**152,230**	**461,688**	**219,227**	**249,850**	**239,580**	**185,767**	**190,826**	**124,142**	**137,129**	**2,461,741**

According to vitamin oil industries spokesmen, the committee investigation tends to show that the new Vitamin A acetate standard is unsatisfactory for making Vitamin A assays of Vitamin A natural esters.

The committee has continued its work since the meeting and is now trying to develope the necessary information to make recommendations with respect to the improvement of the biological assay, increasing the accuracy of the spectrophotometric assay and Carr-Price measurements.

In a recent poll to which 29 firms in the Vitamin A oil industry responded, 25 voted that the industry should use a single uniform conversion factor for the time being, with the exception of USP sales. Three voted no, and there was one other suggestion.

Fourteen firms voted that the numerical factor should be 2,000; 10 firms voted for 1,600; and two others voted for a factor of 1894.

Subscribing members to the Temporary Committee for the Collaborative Study of Vitamin A are: F. E. Booth Co. Inc., California Packing Corp., Collett-Week-Nibecker, Inc.; Lyle Branchflower Co., Washington Laboratories; Van Camp Laboratories; Dawes Vitamin Oil Producers Inc., Silmo Chemical Corp., Nopco Chemical Co., and the Laboratory of Vitamin Technology. Curtis & Tompkins, Ltd. donated their facilities and services to the Committee for the blending, packaging and shipment of the collaborative samples.

VITAMIN LIVER LANDINGS, SEATTLE

Year	Dogfish Livers	Lingcod Livers	Soupfin Livers	Miscellaneous Livers
	Pounds	Pounds	Pounds	Pounds
1942	2,149,178	....	333,009	....
1943	2,246,072	....	454,483	....
1944	4,909,547	....	406,563	....
1945	2,568,317	....	179,351	....
1946	2,619,981	114,528	94,752	586,968
1947	1,603,315	66,415	56,162	523,176

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OREGON VITAMIN FISH LIVER LANDINGS

SPECIES	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	**Total**
—1947—													
Lingcod	1,553	866	1,067	1,417	1,307	712	1,256	846	807				**9,831**
Skate	83			42	262								**387**
Halibut			1		81	260	10	262					**614**
Sablefish	197			76	182	145	192	82					**874**
Sole													
True Cod				28	119								**147**
Miscellaneous Cod	63	307	68	492	95	656	287	97	559				**2,624**
Miscellaneous	392		19	111		63							**585**
SHARK:													
Dogfish	55,336	13,653	37,819	27,900	5,541	8,826	7,885	2,870	19,017				**178,847**
Soupfin	10,195	13,943	5,160	270	21	615	3,396	9,097	10,778				**53,475**
Bluefin	81						175	579	503				**1,338**
Basking													
Bonita													
Miscelneous			47				69						**116**
TOTALS	**67,900**	**28,769**	**44,181**	**30,336**	**7,608**	**11,277**	**13,270**	**13,833**	**31,664**				**248,838**
—1946—													
Lingcod	892	1,081	477	3,141	911	2,495	2,348	4,872	23,011	3,746	2,575	6,621	**52,170**
Skate					40		39	171				347	**597**
Halibut					873	1,296	749	541	116	233	296	79	**4,183**
Sablefish		383		1	40	1,604	3,277	2,747	864	4,113	5,091	1,921	**19,991**
Sole													
True Cod	9		4	29	55	1,020		1,133	197	73	497		**3,017**
Miscellaneous Cod	4			43	19	75	26	273	1,082	18		190	**1,730**
Miscellaneous				5	587	583	49	4,931	49	2,426	908	595	**10,133**
SHARK:													
Dogfish	16,992	14,290	9,208	27,907	72,028	18,102	3,436	6,000	45,548	12,427	88,772	58,315	**373,025**
Soupfin		2,960	6,538	2,350	70	48,849	2,006	15,914	7,080	6,965	6,502	3,519	**102,753**
Bluefin	5,485					359	1,040	8,098	10,898	6,406	6,246	378	**38,910**
Basking													
Bonita												42	**42**
Miscellaneous	39				154				154			80	**427**
TOTALS	**23,421**	**18,714**	**16,227**	**33,476**	**74,777**	**74,383**	**12,920**	**44,680**	**88,999**	**36,407**	**110,887**	**72,087**	**606,978**
—1945—													
Lingcod	475	333	202	1,129	1,466	2,495	3,984	3,309	5,138	3,494	5,373	1,830	**29,228**
Skate													
Halibut					3,702	2,746	749	944	232	82			**8,455**
Sablefish					53	1,671	2,754	327	2,615	1,446	1,092	893	**10,851**
Sole	82												**82**
True Cod				376	8	31	19					6	**440**
Miscellaneous Cod	152				23	114	272	83	12	278	5,423	406	**6,763**
Miscellaneous				528	22	115	79			107	79		**930**
Shark:													
Dogfish	14,431	4,558	20,040	10,153	13,097	34,698	26,266	45,900	13,031	22,592	1,312	60,324	**266,402**
Soupfin	10,054	1,465	2,150	795	28	1,982	8,993	9,312	3,972	8,160	1,314	22,247	**70,472**
Bluefin	56					3	569	1,333	592	8,031	364		**10,948**
Basking													
Bonita			18										**18**
Miscellaneous								21					**21**
TOTALS	**25,250**	**6,356**	**22,410**	**12,981**	**18,399**	**43,855**	**43,685**	**61,229**	**25,592**	**44,190**	**14,957**	**85,706**	**404,610**
—1944—													
Lingcod	676	485	1,742	3,813	2,764	4,426	5,963	11,424	2,920	1,937	331	1,408	**37,889**
Skate					33	3			2			2	**40**
Halibut	3	1	4		797	6,219	3,236		9				**10,269**
Sole								385				82	**467**
Sablefish			13	36	220	1,565	11,371	903	969	210	46		**15,333**
True Cod				3	7	25	48	366					**449**
Miscellaneous Cod			19	224	56	44	179	102	146	115	53	1,190	**2,128**
Miscellaneous			25		10	67	120	396	406	48			**1,072**
Shark:													
Dogfish	10,238	6,255	9,060	45,334	118,110	98,990	115,941	25,943	10,292	17,385	28,272	35,526	**521,346**
Soupfin	19,341	3,908	12,149	6	36	1,670	17,293	39,921	59,758	8,203	18,012	9,842	**190,139**
Bluefin						88	963	2,003	1,611	900	256		**5,821**
Basking							10	255					**265**
Bonita	11		9					152	37				**209**
Miscellaneous	32	10					397	324	623	9	41	16	**1,452**
TOTALS	**30,301**	**10,659**	**23,021**	**49,416**	**122,033**	**113,097**	**155,521**	**82,174**	**76,773**	**28,807**	**47,011**	**47,984**	**786,797**
—1943—													
LINGCOD	419	794	1,558	1,436	2,829	2,598	2,754	1,878	2,346	1,391	1,717	2,039	**21,759**
SKATE	9	9	97	125				2		11	39	8	**300**
HALIBUT				814	3,645	6,187	83	45		23	13	8	**10,818**
SABLEFISH				15	415	1,925	5,317	1,067	137	228	37	1	**9,142**
TRUE COD	175				42	63	93		130				**503**
MISCELLANEOUS COD					12		8	99	2		27	105	**253**
MISCELLANEOUS					25		29	50	2,002	48	131		**2,285**
SHARK:													
*Dogfish	6,929	3,337	4,588	5,893	12,589	9,105	22,889	13,179	22,540	102,316	52,447	28,005	**283,817**
Soupfin	21,901	50,327	10,370	12	11	560	13,215	37,394	36,363	35,252	60,186	6,989	**272,580**
Bluefin	1,522	517	117				1,750	5,832	3,537	3,541	229	109	**17,154**
Basking	29								304	362	134		**829**
Bonita			54		28			17	592	61	332	74	**1,158**
Miscellaneous	4	99						550	701	464	1,470	221	**3,509**
TOTALS	**30,988**	**55,083**	**16,784**	**8,295**	**19,596**	**20,438**	**46,138**	**60,113**	**68,654**	**143,697**	**116,762**	**37,559**	**624,107**

* These statistics do not include livers recovered from fish landed round, which would include principally dogfish, tuna, rockfish and some sole.

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OIL & MEAL

Fish oil and meal production of the Pacific in 1947 declined sharply for the third successive year, due once more to disappointing yield of the Pacific pilchard, or California sardine.

This species normally accounts for 25 per cent of the American fish tonnage.

For two successive years this great fishery has been a flat failure in northern California; and in 1947 the southern California catch showed alarming shrinkage.

Herring reduction, and the manufacture of by-products from fishery plant offal were the strong factors in 1947 oil and meal output.

Alarming shortage of Pacific pilchards, or California sardines, continued in 1947 for the second successive year and drew-down the yield of oil to the lowest annual output since 1926.

Fish meal was relatively more plentiful than oil, although the 1947 output was the smallest since 1932.

Reason for the disparity in relative positions of fish oil and meal lies in the fact that British Columbia herring reduction, and the utilization of fish packing plant waste for the manufacture of by-products, accounted for a greater-than-usual percentage of the yield. These two types of material provide a larger relative amount of meal than they do of oil, and this fact is reflected in the break-down of 1947 production.

Reflecting the inter-relationship between the Canadian pilchard fishery and that for sardines in northern California waters, the Vancouver Island operations in 1947 proved a flat failure. So small was the catch made by the Canadian vessels that it was not reported by the dominion fishery authorities.

This failure projected, and intensified, the condition which de-

1947—PACIFIC COAST FISH OIL AND MEAL—1947

Regions and Districts	Number Active Plants	Fish Meal, Tons	Herring Oil, Gallons	Sardine or Pilchard Oil, Gallons	Other Fish Oil, Gallons▲	Total Fish Oil, Gallons	Regions and Districts
Alaska	**14**	**14,232**	**3,747,047**		**32,628**	**3,779 675**	**Alaska**
Southeast Alaska	8	6,727	1,732,648		30,000	1,762 648	Southeast Alaska
Prince William Sound							Prince William Sound
Kodiak Island Area	6	7,505	2,014,399		2,628	2,017,027	Kodiak Island Area
British Columbia	**17**	**12,773**	**1,551,165**		**227,162**	**1,778,327**	**British Columbia**
Washington	**8**	**1,631**		**44,800**	**156,001**	**200,801**	**Washington**
Puget Sound	5	963			146,001	146,001	Puget Sound
Grays Harbor	3	668		44,800	10,000	54,800	Grays Harbor
Oregon	**4**	**2,040**		**228,558**	**17,626**	**246,184**	**Oregon**
California		**33,975**		**1,851,768**	**558,694**	**2,410,462**	**California**
San Francisco Bay		61		6,709	†	6 709	San Francisco Bay
Monterey	*	2,772		271,490	80,004	351,494	Monterey
San Pedro Area		22,670		1,573,569	274,468	1,848,037	San Pedro Area
San Diego		8,472		‡	204,222	204,222	San Diego
TOTALS		**62,611**	**5,298,212**	**2,125,126**	**992,111**	**8,415,449**	**Totals**

*Data not available. †Included with Monterey. ‡Included with San Pedro. ▲Does not include vitamin oils.

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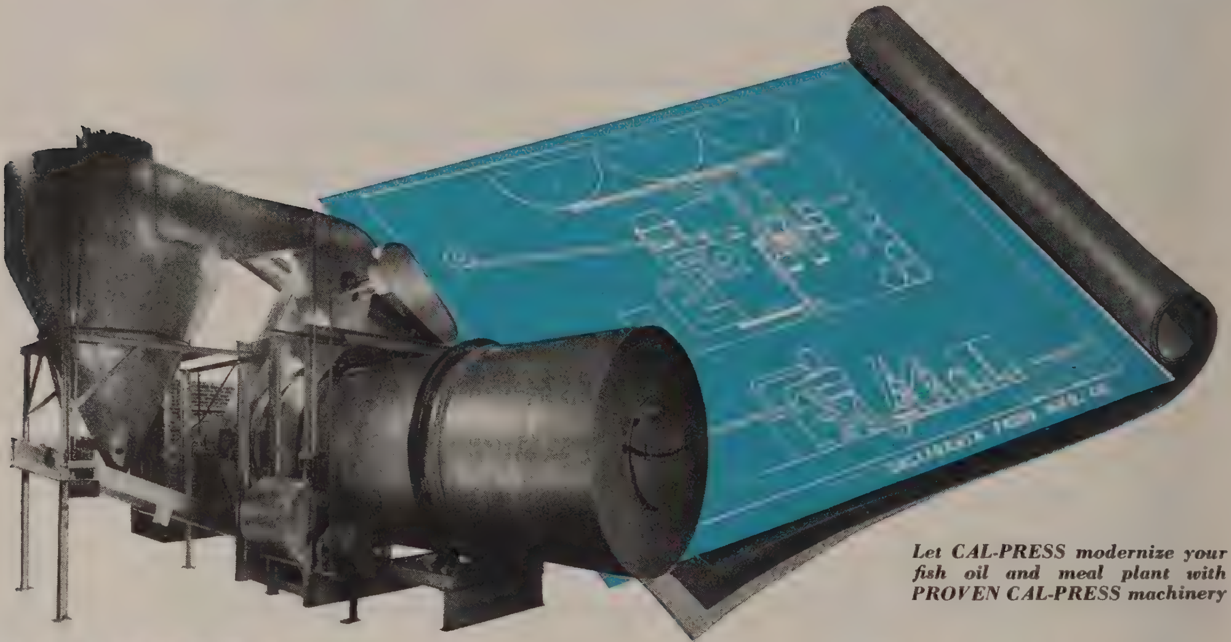

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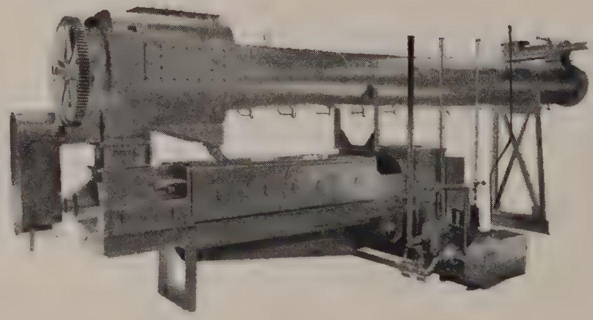

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California Fish Oil and Meal Production—1930 to 1947

Fish Oil, Gallons						Fish Meal, Tons				
San Francisco District	Monterey District	San Pedro District	San Diego District	**Total Gallons**	Year	San Francisco District	Monterey District	San Pedro District	San Diego District	**Total Tons**
747,931	3,769,950	1,282,893	41,989	**5,842,763**	1930	3,375	13,752	13,653	4,859	**35,639**
726,514	2,372,303	818,364	7,511	**3,924,692**	1931	3,597	8,416	7,600	2,877	**22,440**
426,831	3,378,929	1,293,961	25,678	**5,125,399**	1932	2,435	12,560	9,846	2,659	**27,500**
933,696	4,209,366	2,585,784	58,948	**7,787,794**	1933	4,941	18,869	18,249	4,310	**46,369**
2,490,156	9,322,080	4,221,447	94,525	**16,128,208**	1934	11,138	34,492	27,236	4,858	**77,724**
3,106,785	6,734,305	3,821,566	261,482	**13,924,138**	1935	12,994	27,966	31,163	6,572	**78,695**
5,626,422	6,756,541	2,834,887	260,059	**15,477,909**	1936	24,593	30,431	23,588	7,655	**86,267**
4,431,668	4,122,817	2,578,600	191,757	**11,324,842**	1937	22,916	21,118	29,184	8,300	**81,518**
7,032,792	4,753,160	2,126,661	130,606	**14,043,219**	1938	31,773	25,202	24,209	6,732	**87,916**
10,395,398	6,894,201	1,594,122	96,806	**18,980,527**	1939	43,369	33,238	21,858	6,704	**105,169**
4,831,500	5,745,120	2,509,291	129,079	**13,214,990**	1940	21,256	28,004	29,542	7,335	**86,137**
7,429,493	7,537,870	2,627,959	81,876	**17,677,198**	1941	32,773	38,875	25,832	5,332	**102,812**
4,183,492	5,219,441	3,146,680	137,027	**12,686,640**	1942	17,748	25,170	31,633	4,452	**79,003**
4,979,798	6,652,715	2,262,889	120,777	**14,016,179**	1943	19,682	37,416	24,753	4,300	**86,151**
5,722,966	8,509,678	3,903,785	133,356	**18,269,785**	1944	24,452	42,452	34,945	5,283	**107,132**
3,778,814	5,145,907	2,948,595	188,795	**12,062,111**	1945	16,177	26,105	29,822	6,549	**78,653**
72,089	922,103	3,641,810	266,623	**4,902,625**	1946	1,597	6,572	36,859	7,867	**52,895**
6,709	351,494	1,848,037	204,222	**2,410,462**	1947	61	2,772	22,670	8,472	**62,611**

NOTE:—This table includes all fish oil except vitamin oils from livers, and includes oil from fish plant offal as well as from whole fish. Meal figures include solid residuum recovered from stickwater. The San Francisco district as reported covers all California north of Monterey Bay.

veloped in 1946, when the pilchard catch fell to negligible proportions.

Canadian Herring Catch Exceptionally Heavy

The British Columbia catch of herring, on the other hand, was exceptionally good, and December, 1947, saw some of the phenomenal fishing which occasionally marks this enterprise.

For example, in the lower east coast of Vancouver Island area the extra catch quota of 5,000 tons was attained in 27 hours of fishing. Actually, the catch ran a full 1,000 tons above the quota, so heavy was the fishing. The catch was made so rapidly that the authorities could not close the season soon enough to keep the take within the limit set. This catch was made by less than 100 boats.

It should be explained that the lower east coast area orginally had a quota of 40,000 tons. This had been taken in earlier operations, but investigation by the dominion fishery authorities indicated that

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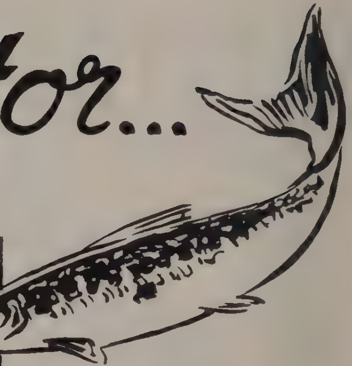

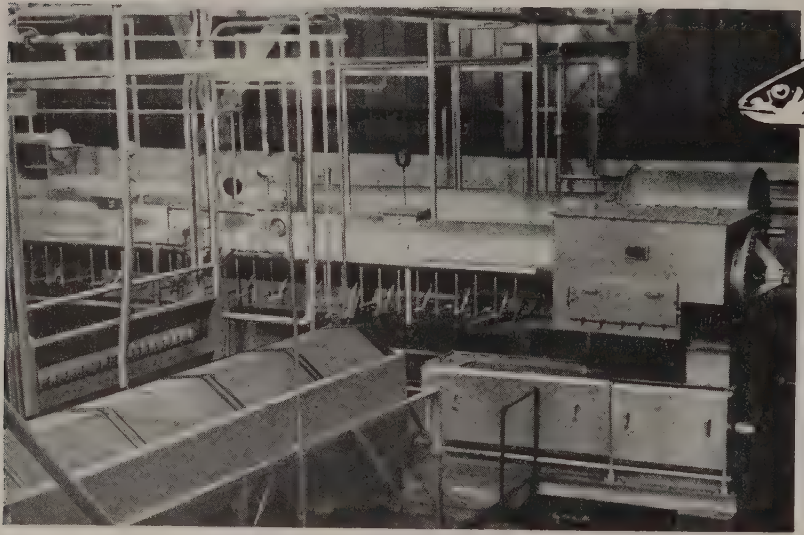

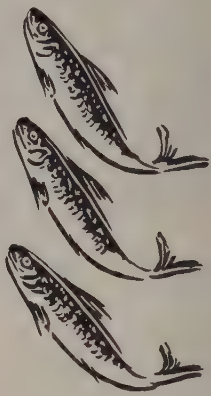

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1947—CALIFORNIA SARDINE REDUCTION—1947

Months	San Francisco Area			Monterey Area			San Pedro and San Diego			All Areas Combined		
	Tons of Fish	Gallons of Oil	Tons of Meal	Tons of Fish	Gallons of Oil	Tons of Meal	Tons of Fish	Gallons of Oil	Tons of Meal	Tons of Fish	Gallons of Oil	Tons of Meal
January	219	2,269	26	303	3,140	63	8,325	86,057	1,224	8,847	91,466	1,313
February	....	....	....	330	3,581	51	11,809	55,906	1,799	12,139	59,487	1,850
Spring Total	**219**	**2,269**	**26**	**633**	**6,721**	**114**	**20,134**	**141,963**	**3,023**	**20,986**	**150,953**	**3,163**
August	72	2,019	12	7,332	162,556	860	....	....	....	7,404	164,575	872
September	6	102	1	2,215	46,103	331	....	....	....	2,221	46,205	332
October	20	452	3	1,231	22,190	166	65,110	1,152,719	7,840	66,361	1,175,361	8,009
November	191	1,867	19	1,360	18,920	190	16,112	238,880	2,372	17,663	259,667	2,481
December	74	....	....	1,591	15,000	150	2,762	40,007	406	4,427	55,007	556
Fall Total	**363**	**4,440**	**35**	**13,729**	**264,769**	**1,697**	**83,984**	**1,431,606**	**10,618**	**98,076**	**1,700,815**	**12,350**
Grand Total	**582**	**6,709**	**61**	**14,362**	**271,490**	**1,811**	**104,118**	**1,573,569**	**13,641**	**119,062**	**1,851,768**	**15,513**

the abundance of herring was such that a further catch could be taken without damage to the resource.

As result, resumption of fishing was permitted Dec. 14 with a quota of 5,000 tons; the season being closed the following day with the quota exceeded.

Fish Plant By-Products Yield Is Large Factor

Manufacture of fish meal and oil from fishery plant offal is believed to have reached the highest levels in the history of the industry in 1947. This was largely due to the high prices prevailing for the products, plus the largest tuna catch in the history of that industry. Other favorable factors included a fair salmon season in British Columbia and the heaviest run of mackerel ever recorded in California.

As mentioned previously, fish plant material is more important as a source of meal than it is of oil.

Some noteworthy progress has been made recently on the Pacific Coast in the matter of utilization of stickwater for the production of a high-protein, vitamin-valuable feeding factor. Although in California plants have operated for some time on material pumped from adjacent processing plants, individual concentration has been closely limited. In 1947 Del Mar Canning Co. installed such a condensing system in its plant at Warrenton, Ore., for the production of fish solubles from stickwater.

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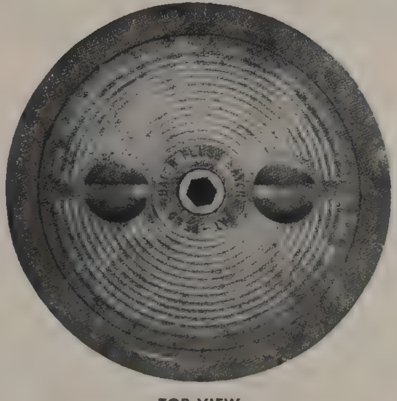
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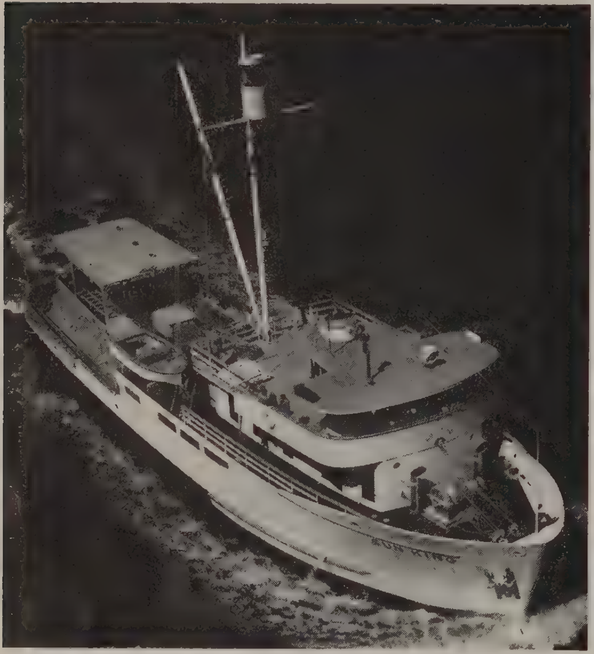
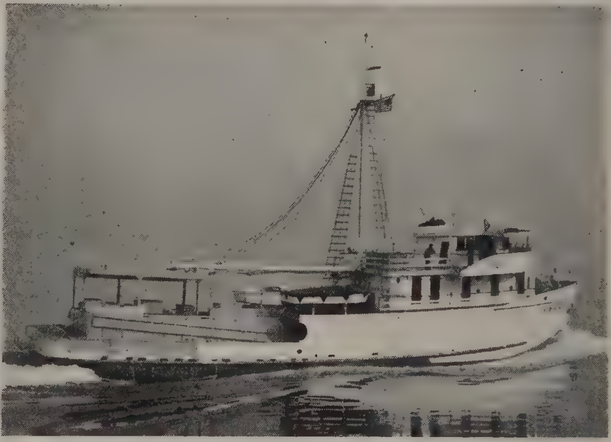
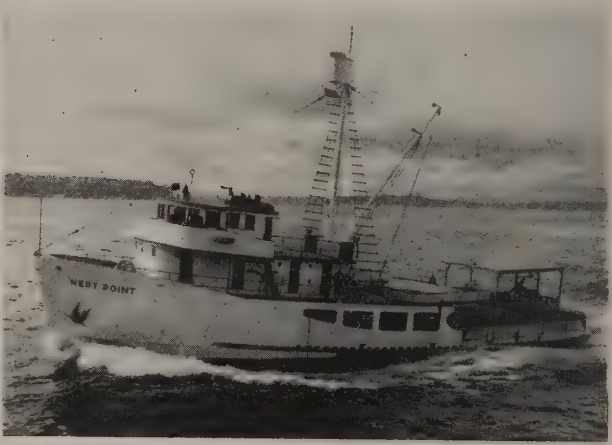


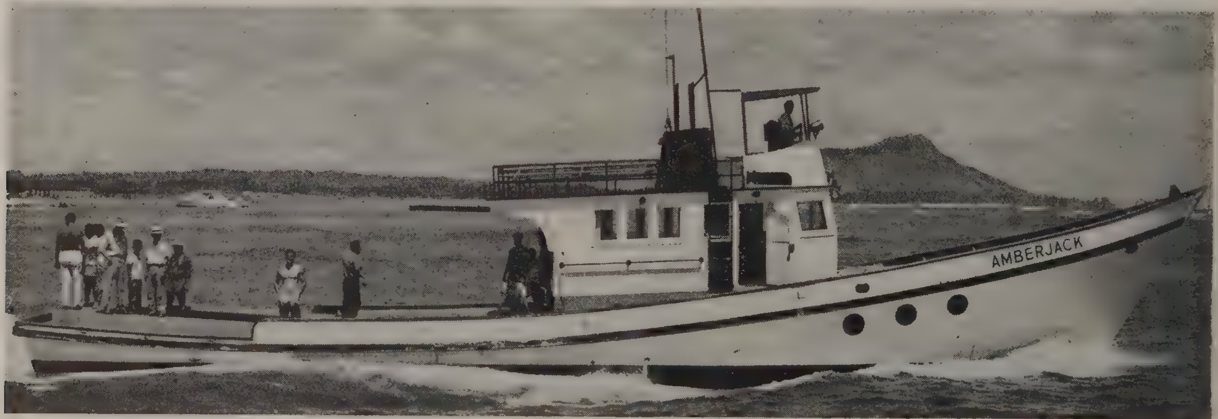
Steel Tuna Clipper "SUN KING," built in 1947 for Sun Harbor Packing Co., San Diego. A sister-ship of "SUN VOYAGER." Dimensions: 112′ x 26′6″ x 14′.



Wood Tuna Clipper "SUN VOYAGER," owned by John and Frank Souza and Associates of San Diego. Dimensions: 112′ x 26′6″ x 14′.



Steel Tuna Clipper "WEST POINT," built in 1947 for Sverre Jangaard, Chris Jangard and Carl Hanken. Dimensions: 112′ x 26′5″ x 14′.



"AMBERJACK"—Hawaii's first all-steel tuna fishing vessel. Built in 1947 by Hawaiian Shipyards Division, Hawaiian Tuna Packers, for Dr. Edwin T. Kam and Associates. Dimensions: 75′ x 16′ x 7′2″.

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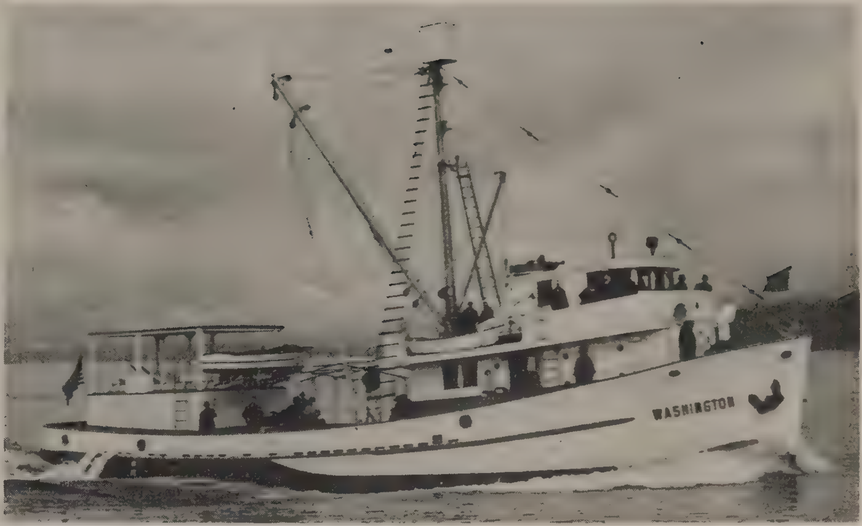
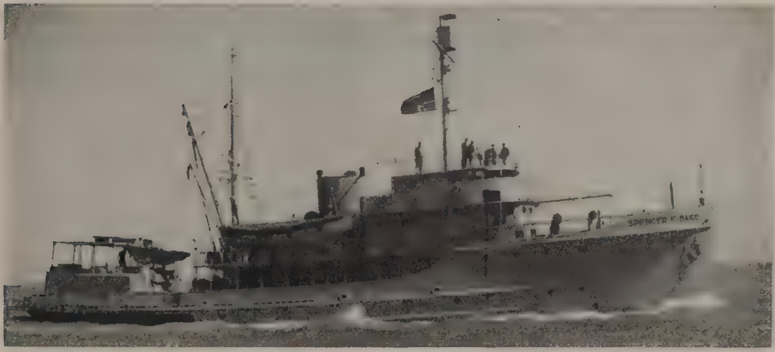
DISTINCTIVE FISHING CRAFT and FISHERIES RESEARCH VESSELS of H. C. HANSON DESIGN



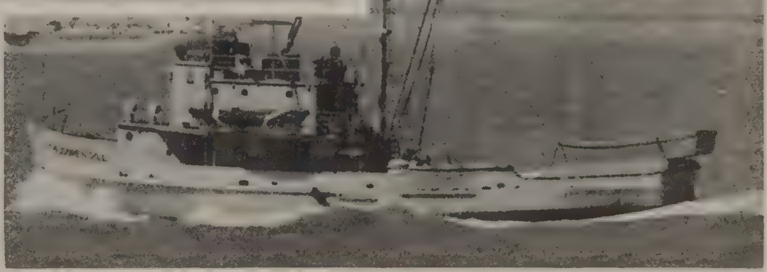
Above, "WASHINGTON" — One of four distinctive steel clipper-trawlers built in 1947 for the Pacific Exploration Company's fishing operations and research work off Central America and in the Mid-Pacific. Dimensions: 100′ by 26′ x 13′ 9″.

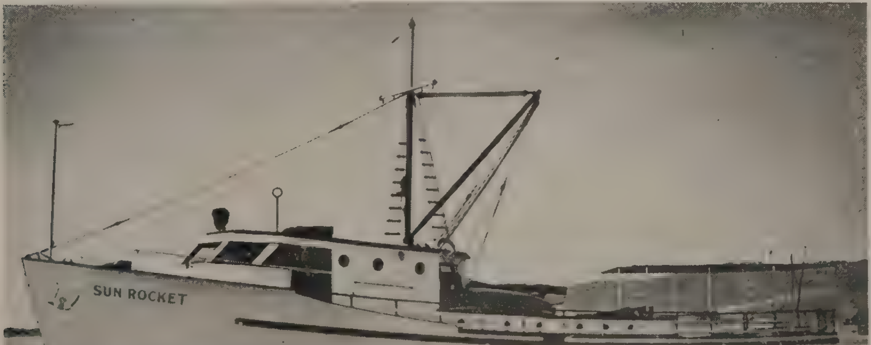


Above, "SPENCER F. BAIRD," former sea-going tug (LT-581), converted in 1947 to a tuna clipper and research vessel for use in the Philippine fisheries rehabilitation program. Dimensions: 143′x33′ by 16′. (Steel).

Right, "THEODORE N. GILL," former Navy mine sweeper (AMC-90) also converted in 1947 to an experimental purse seiner and West Coast type trawler for Philippine service. Dimensions: 97′x23′ by 11′. (Wood).

Both vessels are equipped for oceanographic and biological work, as well as for technological studies.





Left, "SUN ROCKET," 70-foot steel scout boat built in 1947 for the Sun Harbor Packing Company, for service in sardine scouting expeditions off Central and Southern California.

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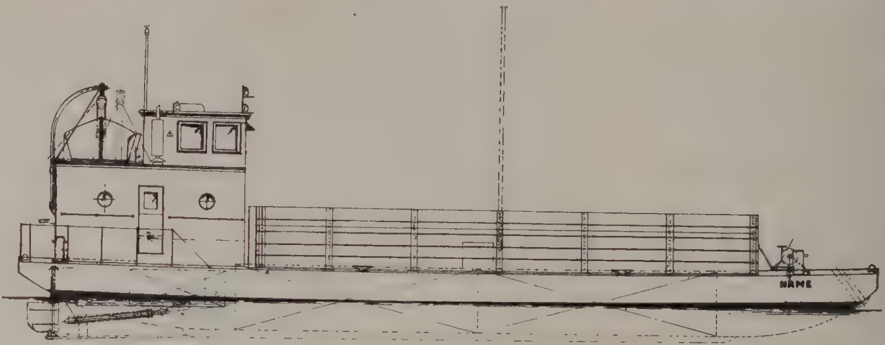

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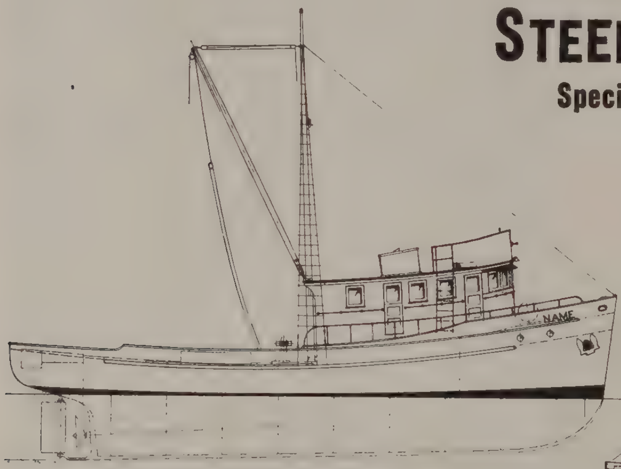

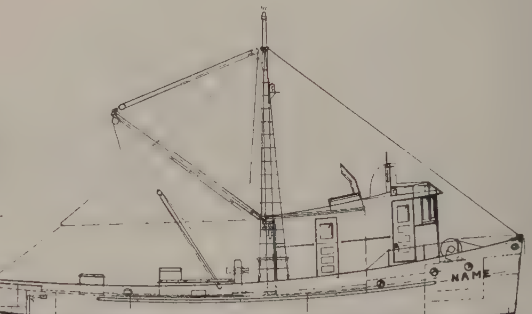

(Above)

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Dragging or
Trolling

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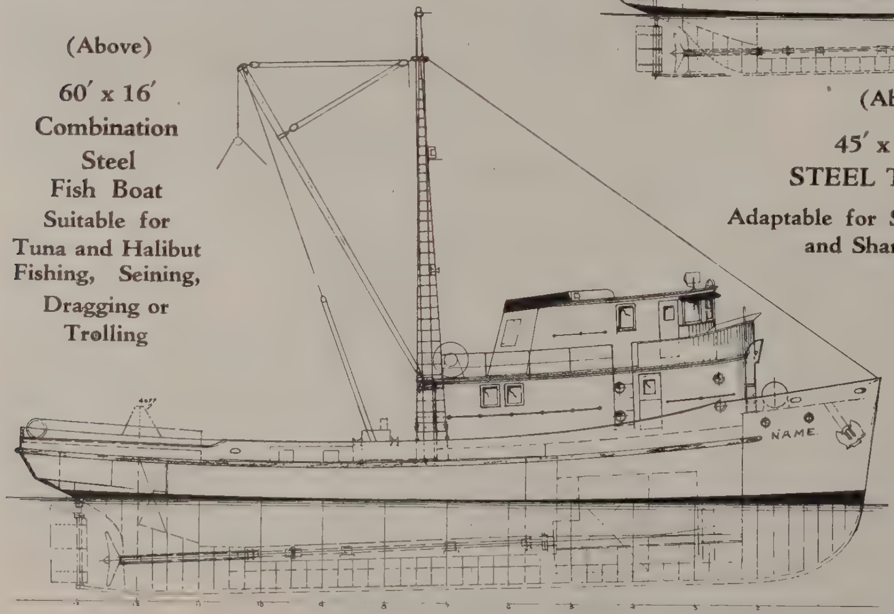

(Left)

83′ x 22′
STEEL
DRAGGER

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SARDINE REDUCTION

America's greatest tonnage fishery, that for California sardines, in 1947 sustained a heavy blow for the second consecutive season. Complete failure in the northern extremity of the California fishery, backed by almost as dismal a picture in the Monterey region, and undoubted evidence of scarcity in the south, left a drab prospect for fishermen and processors alike. The Southern California tonnage was maintained for a time during the late months of 1947 by dint of great effort, applied by a large fleet, but fell off sharply to distressing levels.

For the second season running San Francisco's sardine reduction plants remained closed due to a lack of fish. Monterey's plants did little better. After getting off to a good start, Southern California production of sardine meal and oil was off sharply as the year ended.

With only 7,396 tons of sardines landed in Monterey during the August dark, and none at all in San Francisco, all factors of California's multi-million dollar sardine industry were anxiously wondering whether the 1947-48 season would be a repetition of the disastrous 1946-47 season. It proved very shortly to be worse.

As of Dec. 18, 1947, the total California sardine catch was 97,273 tons as compared with 192,026 tons to Dec. 19, 1946, and to Dec. 31, 1945, 351,125 tons. San Francisco had 291 tons vs., 503; Monterey 13,729 as against 24,768; and southern California 83,253 tons as compared to 166,755 tons.

The production of sardine meal and oil from the opening of the 1947-48 season on Aug. 1, 1947 to Nov. 30, reflected the poor catch. San Francisco produced 4,400 gals., of oil, Monterey 249,769 gals., and southern California 1,391,599 gals., as compared to 2,597,068 gals. for the season previous.

Production of fish meal was proportionately lower during the first part of the 1947-48 season. In San Francisco 35 tons were produced, from Aug. 1, to Nov. 30, 1947, as compared to 88 tons the previous year; Monterey turned out 1,547 tons as compared to 9,426 tons the year before; and southern California produced 10,212 tons as compared to 17,670 tons for the same period in 1946.

It had looked as though the southern California season was to be another banner one. To Oct. 15, 46,808 tons of sardines had been delivered. The season opened on Oct. 1, but actual initial arrivals were Oct. 4. For the same period in 1946 20,719 tons were brailed from the seiner fleet.

In 1947 however, there was a

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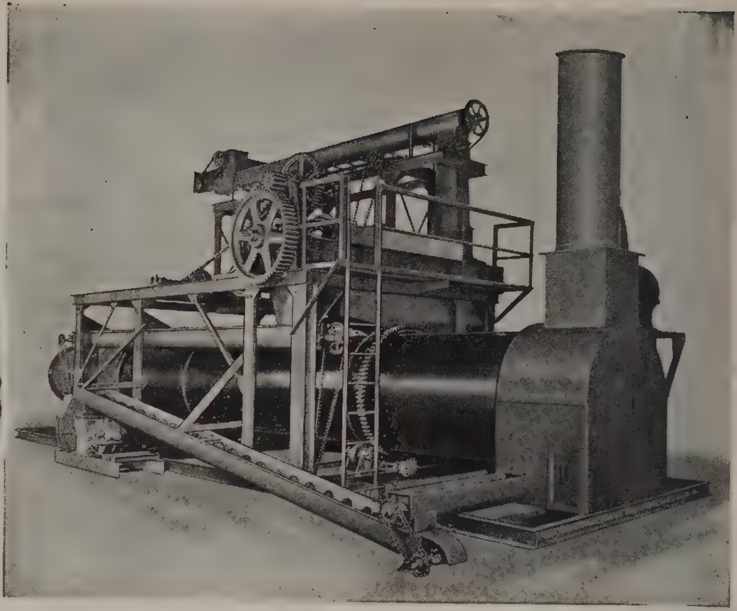

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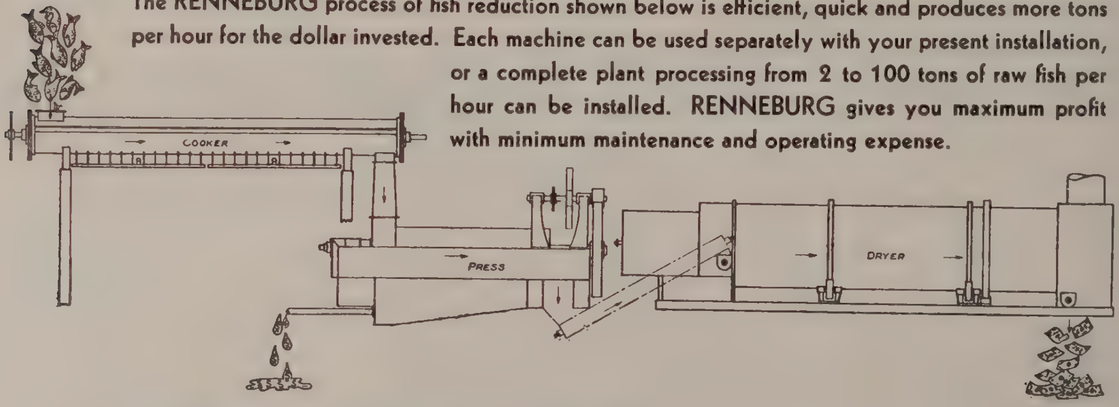

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"PIONEERS IN FISH MEAL AND OIL MACHINERY—KNOWN THE WORLD OVER" tremendous increase in the sardine fleet, as vessels came from ports all the way to Alaska. Comparing the returns per individual vessel, as the southern season got under way, the 46,808 tons came from 1,099 deliveries, or an average of 42 tons per individual fare. In 1946, 20,719 tons were from 282 vessels, or individual arrivals, for a much greater average of 73 tons per fare. Thus the catch-per-boat-per-trip was sharply down.

On opening day there were an estimated 325 seiners registered to fish out of Los Angeles harbor. About 250 started out Oct. 3, and 125 came to contact canneries the next morning, fluming 8,662 tons. Following the next week end lay-off, 158 seiners came in Oct. 6 with a new record tonnage of 8,992 tons.

Numerous and continued attempts by California sardine plant operators to find fish by air-sea search were made. In many instances the fish were found but no boats were available to net them.

Southern California's sardine season was really in the doldrums as the third dark proceeded, after being delayed for several days due to a strike by fishermen for a raw price increase from $45 to $60 per ton, which they succeeded in getting.

From the start of of the dark, Dec. 3, to Dec. 13, representing seven days of fishing, only 791 tons were brailed for an average of 113 tons daily. The industry was losing ground from 1946's comparable tonnage. Through Dec. 10 the season had yielded 77,139 tons on 508 seiners, whereas the total on the date in 1946 was 144,528, almost twice as much.

One reason for the sharply reduced tonnage was the opening of

Pacific Coast Output of Fish Meal -- 1916 - 1947

Year—	Alaska (Tons)	Washington (Tons)	Oregon (Tons)	California (Tons)	British Columbia (Tons)	Total (Tons)
1916	1,594	....	100	535	....	2,229
1917	1,858	3,186	190	3,481	1,220	9,935
1918	600	1,885	95	8,734	1,977	13,291
1919	1,218	1,114	350	11,153	1,847	15,682
1920	3,928	352	136	8,856	466	13,738
1921	678	1,354	300	6,317	489	9,138
1922	1,958	1,216	40	9,027	911	13,152
1923	3,635	992	150	9,238	823	14,838
1924	5,560	607	275	15,328	1,709	23,479
1925	9,302	1,395	300	22,936	4,551	38,484
1926	12,093	822	325	15,767	10,543	39,550
1927	7,704	956	500	21,374	16,659	47,193
1928	10.713	670	425	28.390	15,331	55,529
1929	13,353	1,554	460	43,496	21,208	80,071
1930	12,847	1,046	400	36.276	17,542	68,111
1931	8,704	714	228	22,440	19,561	51,647
1932	10,168	757	143	27,500	15,450	54,018
1933	11,435	1,085	210	58,879	6,752	78,361
1934	14,341	876	280	95,193	12,654	123,344
1935	15,818	1,032	4,763	103,772	16.090	141.475
1936	15,051	1,687	2,864	126,143	21,948	167,693
1937	19,636	4,012	2,775	93,897	25.630	145,950
1938	17,066	4,977	2,933	97,451	21,006	143,433
1939	17,477	4,651	3,933	105.169	19.468	150.698
1940	8,144	1,528	592	86,137	31,899	128,300
1941	11,740	4,168	2,969	102,812	24.312	146,001
1942	3,540	1,608	861	79,003	26,474	111,486
1943	7,280	3,231	1,365	86,151	24,919	122,946
1944	8,777	901	1,200	96,853	20,852	128,583
1945	11,188	2,894	907	78.653	21,123	114,769
1946	15,869	3,826	1,633	52,895	10,561	84,784
1947	14,232	1,631	2.040	33.975	12,773	62 611

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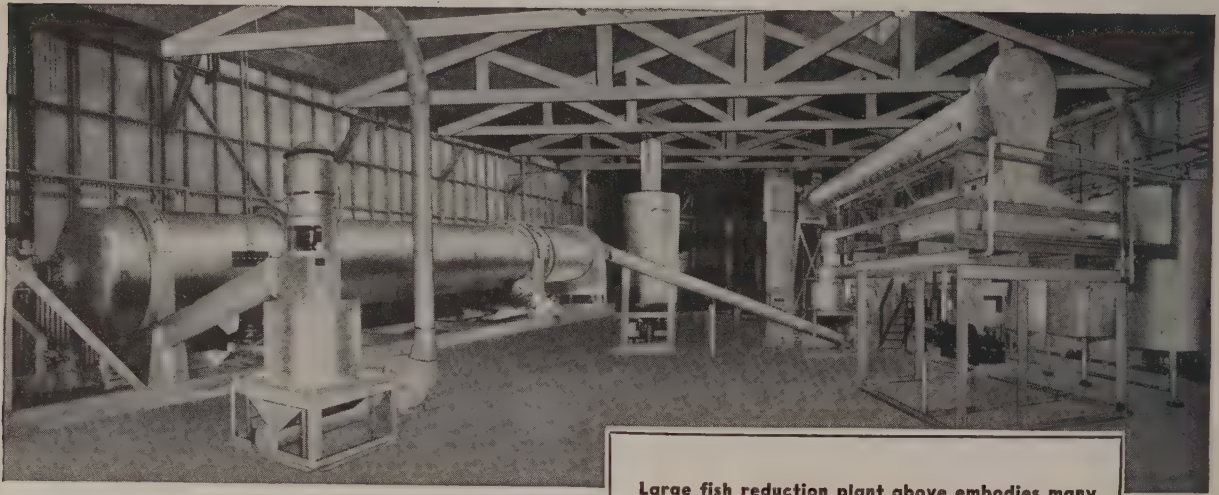

Years of research and engineering experience have been required in attaining the high degree of efficiency and performance offered by Enterprise Process Machinery and Equipment. Countless applications are to be found in fruit, vegetable and other food processing plants, as well as in waste disposal systems, fish canning and reduction plants, chemical plants, etc. Standard units in a wide range of types and sizes are available to fit your most exacting requirements. Special units can be engineered to your specifications.

Large fish reduction plant above embodies many Enterprise Process Machinery units consisting of

- ★ Enterprise Vertical Mills
- ★ Enterprise Continuous Rotary Steam Tube Dryer
- ★ Enterprise Continuous Screw Cooker
- ★ Enterprise Continuous Screw Press

VERTICAL MILLS

Available in several types and sizes for handling capacities from a few pounds to many tons per hour.

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Continuous Screw Cookers and Precookers are supplied in standard size units.

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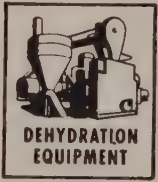
Available in three sizes, Enterprise Continuous Screw Presses are capable of handling capacities up to 18 tons per hour.



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Complete equipment designed and adapted to specific requirements.

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Furnished in various types suited to a variety of requirements these Continuous Rotary Dryers range up to 9' in diameter and 60' in length.

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Complete details and data furnished on request. Submit your problems in detail to Enterprise Engineers, Process Machinery Division, for analysis and recommendations.

1947—California Miscellaneous Fish Oil and Meal

Month	San Pedro Area		San Diego		Northern California		California Totals	
	Oil, Gals.	Meal, Tons	Oil, Gals.	Meal, Tons	Oil, Gals.	Meal, Tons	Oil, Gals.	Meal, Tons
January	1,811	83	3,851	260	260	4	5,922	347
February	8,898	292	6,092	414	326	16	15,316	722
March	6,325	274	16,303	498	278	2	22,906	774
April	8,983	453	16,623	546	....	....	25,606	999
May	9,369	698	10,583	710	....	....	19,952	1,408
June	12,308	690	21,086	928	....	....	33,394	1,618
July	18,957	1,083	32,091	1,258	....	....	51,048	2,342
August	33,487	1,245	24,455	884	....	....	57,942	2,129
September	30,073	854	18,467	851	42,675	322	91,215	2,027
October	36,076	279	28,464	984	4.043	55	68,583	1,318
November	58,181	1,578	11,207	488	20,422	362	89,810	2,428
*December	50,000	1,500	15,000	651	12,000	200	*77,000	2,351
Totals	**274,468**	**9,029**	**204,222**	**8,472**	**80,004**	**961**	**558,694**	**18,462**

*December totals partly estimated.

Port Hueneme, and many seiners, particularly those with northern affiliations were putting in there to unload. A number of canners, with plants located north and south, were using the new facilities.

Price Up to $60

Although the price of $40 per ton had been mentioned in San Francisco as the expected going price for sardines during the 1947-48 season, when the boats finally went out it was for $45 per ton. During the 1946-47 season the price was $30 per ton, but it was reliably reported that some loads were landed for $60 per ton toward the end of the season. In Dec., 1947, following a strike in San Pedro of fishermen, the price went to $60 per ton.

The price of sardines has varied from a low of $4 per ton in 1932 to a high of $60 per ton in 1947. The price was $11 per ton from 1926 through 1929. It dropped to $8 in 1930 and 1931, only to go as low as $4 in 1932, rising to $7 in 1933. The following year saw sardines at $7.50 per ton, rising to $8 in 1935, and $10 in 1936. The price took a jump in 1937 to $13, yielding $2 of that advance in 1938.

During the 1940-41 season the price was $10.50 per ton, and in1941-42 it rose to $17 per ton. The price in succeeding seasons rose to $22 per ton, and stayed there throughout the war, and for the 1945-46 season.

As 1947 ended, California's sardine processors, faced with a second sea-

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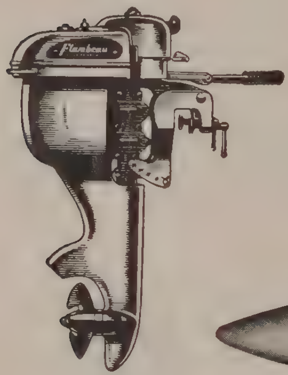
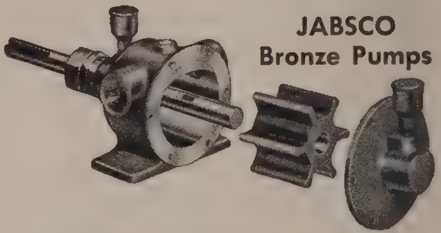
EST. 1830 WALL ROPE

WALL ROPE
•
PAUL'S NETTING
•
FLAMBEAU
OUTBOARD MOTORS



PAR

RADIO TELEPHONES



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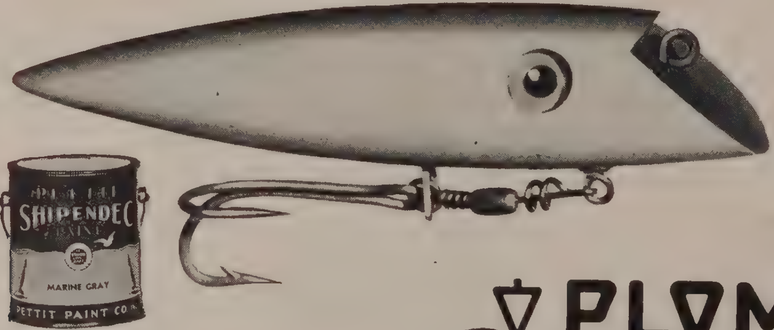

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son even more disastrous than the 1946-47 season, foresaw stringent rules and regulations laid down by the Fish and Game Commission. Also on the horizon was a comprehensive research program, to discover if possible, the cause of the failures of the 1946-47 and 1947-48 seasons.

It became apparent at a meeting of the Fish and Game Commission Dec. 12 that the Bureau of Marine Fisheries desired the commission to have introduced emergency legislation during the interim session of the legislature, further controlling the sardine industry. But at the meeting it was not divulged just how far that legislation might go.

As an indication, however, at a sardine industry meeting in San Francisco Richard S. Croker, chief, Bureau of Marine Fisheries, Division of Fish and Game, had indicated that one of the controls he favors is an over-all, state-wide catch limit of 150,000 tons of sardines for all purposes, including canning and reduction.

For the 1947-48 season the Fish and Game Commision had set a limit of 300,000 tons of sardines for reduction purposes, and as in years past, the amount that could be taken for canning purposes was unlimited.

The sardine industry backed legislation for an additional 50c per ton tax on sardines taken, raising the total tax to $1 per ton. The funds realized from this source are to be administered by a committee which will call upon research organizations in California to use this additional money to extend their present studies on the sardine.

The California sardine industry also backed legislation to appropriate $300,000 of the state's money to finance deep sea research by the Scripps Institution of Oceanography. Some time, however, will be required to acquire and outfit the three Navy vessels needed to investigate ocean conditions in known sardine spawning grounds off southern California and elsewhere along the Pacific Coast.

The research committee of the California Sardine Products Institute which spearheaded the movement for funds for sardine research is composed of J. G. Burnette, Richmond Fisheries, San Francisco; W. C. Morehead, Pan-American Fisheries Inc., Terminal Island; Don T. Saxby, California Packing Corp., Monterey; and I. M. Isaacs, Edible Fish Meals & Oils, vice-president of the Institute, ex-officio.

Herring Operations Hit By Price Disagreement

Alaska herring industry had a fairly favorable season, so far as it was able to be active. Long-protracted price disagreement so delayed the start of the season that operations on Prince William Sound could not be undertaken, and that area was closed-down entirely in 1947.

Simiarly, start of fishing in the Kodiak and Southeastern districts was delayed so long that some curtailment of output undoubtedly resulted.

The Kodiak Island herring season had actually opened before the break came in the deadlock which had held the herring fleet on Puget Sound. Wakefield Fisheries signed with the union June 16.

This settlement was on the basis of 20c per bbl. per man, with nine shares, paid to nine men. Shore plant settlement also involved some sharp increases.

Other operators eventually met the Wakefield offer, but only after they

CHATHAM STRAIT FISH CO.
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A Great Fishing Combination—Father and Son and a D13000 "Caterpillar" Marine Diesel Engine of 150 Continuous B.H.P.

VITINA A is one of the newest and finest additions to the fishing fleet at Monterey. Named for the daughter of the owner-skipper, Diego Arancio (insert at right—son Peter at left) the powerful craft is 56′6″ long, 16′6″ beam. Builder was Eureka Boat Building & Repair Co., Field's Landing. She will carry 55 tons of fish at 9½ knots. Her D13000 "Caterpillar" Marine Engine delivers 150 continuous brake horsepower through a Pacific Western 2-1 reduction gear.

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had lost an additional two weeks of fishing. The Wakefield plant at Port Wakefield on Raspberry Strait took 110,000 bbls. of herring during the season, being high plant in the territory.

Active Herring Plants

Alaska herring plants active during the 1947 season were: Kodiak Island district—Wakefield Fisheries, Port Wakefield; Oceanic Fisheries Co., Port Vita; Chatham Strait Fish Co., Zachar Bay; Southwestern Herring Co., Iron Creek; San Juan Fishing & Packing Co., Uganik Bay;

Southeast Alaska District—Buchan & Heinen Packing Co., Port Armstrong; Arentsen & Co., Big Port Walter; Storfold & Grondahl Packing Co., Washington Bay; Baranof Canneries, Port Conclusion; Fidalgo Island Packing Co., Pillar Bay; W. R. Lebo Co., Killisnoo; Newport Fisheries, New Port Walter.

Echo Sounders Employed Widely in Herring Fishing

Alaska herring fishermen are almost universally employing echo sounders as an essential part of their fishing equipment—in addition to the value of the instrument in navigation. Many of the herring boats have had their echo sounders installed on the bridge, where they can be watched while the vessel is scouting fish.

Detection of fish by means of echo sounders is now abundantly proven, and experienced fishermen are able to tell the density of the school, its shape, its speed and direction of movement, as well as its position and depth.

Aerial Scouting Effective On Northern Pilchards

Among the vagaries which marked the 1947 sardine-pilchard season was the fair catch which was made by boats fishing out of the Columbia River at the time when the San Francisco and Vancouver Island fleets drew absolute blanks.

It must be recognized in this connection that the 7,000 tons of fish delivered on the Columbia River was no great catch, despite the fact that it was the best made by the Columbia River fleet in some seasons.

A considerable part of the credit for this catch in a season when pilchards were scarce to the point of complete failure is given to the aerial scouting operations which were persisted in throughtout the season. Both the Van Camp Sea Food Co. and the Del Mar Canning Co., maintained aerial scouting during the season, and were able to put their boats on the fish consistently.

No small part in the success of this aerial observation appears to be the willingness of the fishermen to avail themselves of the information sent from the airplanes. In the past the surface vessels have imposed scant confidence in the aerial prospecting; but 1947 experience proved encouraging.

The flying scouts, too, have undoubtedly improved with experience, and they have been able with considerable success to determine when schools are sufficiently close to the surface to be fishable—and when they consist of pilchards rather than anchovies.

Pacific Whaling Resumes In Northern California

Whaling was resumed on the Pacific Coast in 1947 after a lapse of

STORFOLD & GRONDAHL PACKING CO.

Our Own Boats Bring Catches Daily, Guaranteeing Production of Highest Quality

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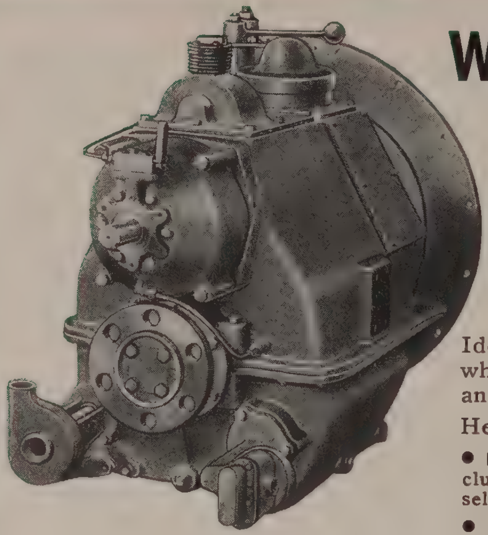
Fancy Fat Alaska Herring

PLANT AT IRON CREEK, ALASKA



WESTERN MARINE GEARS

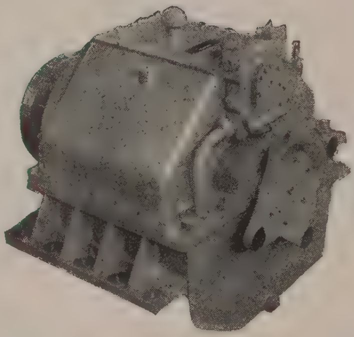
Western Marine Gear Drives are backed by over 50 years of gear making experience, and have many new and exclusive features which insure long life, quiet and efficient operation. Boats using Western Gears are assured fast, dependable service from Western Gear's three conveniently located West Coast plants.

Reverse and Reduction Gear

Ideal for fishing boats, tug boats and other craft where simple, easy reversal of propeller rotation is an important factor in boat operation.

Here are features you will like:

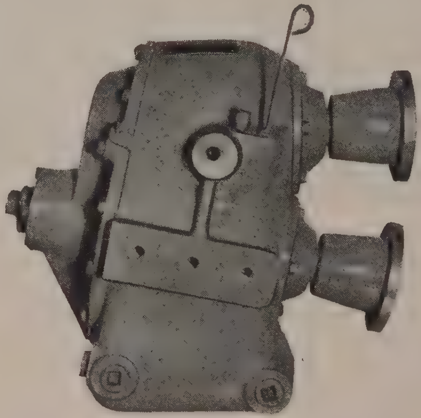
- **EASY, FINGERTIP CONTROL** of hydraulically actuated clutches from pilot house, deck, flying bridge or other selected station.
- **FULL SUSTAINED POWER** in either direction.
- **FOUR POWER TAKE-OFFS** for simultaneous, or separate operation of deck machinery, pumps and other auxiliary equipment.
- **AVAILABLE** in reduction ratios of 1½:1, 2:1, 3:1, and 4:1 in sizes from 50 h.p. to 500 h.p.



Bevel Planetary Reduction Gear

Designed for Diesel engine service to save weight and to take less than one-quarter the space required for conventional Marine Reduction Gears. These new Reduction Gear Units provide reduction without horizontal or vertical offset and more "pay load" space. Capacity of unit illustrated, 1300 h.p. at 720 rpm. input. Output torque, 228,000 in. lbs. Ratio from 1.7:1 to 2.4:1. Dry weight complete (less engine half of input coupling), approximately 4500 lbs.

Capacities other than listed above available, write for further information.



V-Drive Reduction Gear Unit

A practical, new, high quality Reduction Gear Unit for boat owners desiring maximum cabin space and minimum noise and vibration in their living quarters. Available in reduction ratios of 1½:1, 2:1, 2½:1 and 3:1 in capacities up to 150 h.p. at 3200 rpm., with only 12° shaft angle of drive. Unit is compact, rugged, thoroughly dependable under all types of operating conditions. Design makes possible the mounting of the engine on level. Engine bed located in stern over propeller, drive is forward to Vee-Drive reduction gear and back out shaft log at most efficient propeller angle. Finest quality, precision cut spiral bevel gears, case hardened and lapped to insure quiet operation, long life and minimum maintenance. Foolproof lubrication of gears and bearings; water cooled case. Write for detailed specifications.

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GEAR PRODUCTS

several years; and may be expected to expand further in 1948.

Maritime Industries, Inc., with Max Hoffman as principal, opened the whaling plant at Fields Landing on Humboldt Bay, not far from Eureka, Calif., and operated it with apparent success during the 1947 season.

The Northern California whale catch is reported to have been about 35 whales. Whale meat produced during the operation was largely shipped fresh or frozen for use in the manufacture of pet foods.

B. C. Whaling Reviving

Whaling off the British Columbia coast closed-down during the Pacific war, and the fleet which had been active previously was subsequently sold for junk, so far had it depreciated.

In the fall of 1947 there was organized in British Columbia West-

Pacific Coast Output of Fish Oil -- 1916-1947

Year—	Alaska (Gallons)	Washington (Gallons)	Oregon (Gallons)	California (Gallons)	British Columbia (Gallons)	Total (Gallons)
1916	232,376	116,282	20,000	26,063	---- ----------	394,721
1917	231,142	205,511	25,000	176,293	49,784	686,730
1918	147,716	98,711	35,200	346,724	64,060	692,411
1919	170,340	90,921	25,000	514,262	65,945	866,468
1920	720,118	21,850	23,175	611,585	66,802	1,443,530
1921	99,948	170,008	48,000	336,738	53,640	708,334
1922	454,938	157,555	14,000	547,050	90,553	1,264,096
1923	915,143	135,145	24,000	951,888	196,381	2,242,557
1924	1,193,705	79,028	42,000	2,350,722	289,651	3,955,106
1925	2,391,832	97,890	47,400	3,150,041	1,020,607	6,707,770
1926	3,018,675	78,352	58,000	2,123,928	2,555,485	7,834,440
1927	2,067,041	81,801	65,000	2,618,490	3,863,347	8,695,679
1928	2,585,990	79,347	54,000	3,749,302	4,877,059	11,336,698
1929	3,415,154	131,059	62,000	6,548,126	4,066,584	14,222,923
1930	3,601,305	121,602	53,600	5,842,763	4,767,120	14,386,390
1931	2,207,686	128,769	36,000	3,924,692	3,485,287	9,782,434
1932	2,632,154	79,219	33,000	5,125,399	1,857,065	9,726,837
1933	3,195,294	111,098	33,500	10,708,448	935,582	14,983,922
1934	3,741,604	116,967	38,000	18,910,687	2,492,230	25,299,488
1935	3,853,243	110,960	1,144,374	20,695,423	2,644,214	28,448,214
1936	3,823,137	304,975	552,497	24,511,950	2,802,678	31,995,237
1937	5,588,038	942,548	689,159	14,823,508	3,942,576	25,985,829
1938	4,587,513	1,231,144	718,830	16,065,029	4,023,798	26,626,314
1939	4,837,298	830,480	833,300	18,980,527	2,068,779	27,550,384
1940	2,142,674	180,830	114,717	13,214,990	3,388,442	19,041,653
1941	2,894,248	552,491	398,235	17,677,198	3,304,657	24,290,751
1942	892,518	144,691	33,214	12,686,640	2,255,908	16,012,971
1943	1,644,142	586,102	58,000	14,016,179	3,738,818	20,043,241
1944	2,355,010	65,460	50,000	18,271,859	3,548,422	24,290,751
1945	2,835,173	221,218	26,000	12 062,111	2,875,323	18,019,825
1946	3,544,907	341,423	133,727	4,902,625	1,431,600	10,354,282
1947	3,779,675	200,801	246,184	2,410,462	1,778,327	8,415,449

CALIFORNIA FISH REDUCTION PLANTS

MONTEREY DISTRICT

Ace Packing Co., Inc., F. W. Carlson	Moss Landing
Aeneas Sardine Products Co., Frank Enea Lucido	Monterey
Atlantic Coast Fisheries Co., Leon White	Monterey
California Frozen Fish Company, Sal Ventimiglia	Monterey
California Packing Corp., Don T. Saxby (2 plants)	Monterey
Carmel Canning Co., J. R. Perry	Monterey
Custom House Packing Co., F. J. Leard	Monterey
Del Vista Packing Co., W. O. Lunde	Monterey
Edgewater Packing Co., C. J. Broad	Monterey
Enterprise Packers, Sebastian Sollecito	Monterey
Ferrante Co., Inc., Sal A. Ferrante	Monterey
Hovden Food Products Corp., K. Hovden (2)	Monterey
Hovden Food Products Corp., K. Hovden (2)	Moss Landing
Lone Wolf Packing Co., M. A. Leonis	Moss Landing
Lucido Fisheries, Angelo Lucido	Monterey
Magnolia Packing Co., W. B. Hornblower	Monterey
Monterey Canning Co., George Harper	Monterey
Monterey Fish Products, Inc., Frank Lucido	Monterey
Moss Landing Fisheries, F. J. Arnone	Moss Landing
Oxnard Canners, S. A. Ferrante (2)	Monterey
Peninsula Packing Co., G. M. Dollar (2)	Monterey
Port Costa Packing Co., Frank Richey	Moss Landing
Ronda Fisheries, C. D. Day	Monterey
San Carlos Canning Co., Angelo Lucido (2)	Monterey
Santa Inez Fisheries, Inc., Wm. C. Morehead	Moss Landing
San Xavier Fish Packing Co., F. E. Raiter	Monterey
Sea Beach Packing Co., Sal Palma	Monterey
Sea Wolf Packing Co., Wilbur Sandholt	Moss Landing
Sun Harbor Packing Co., E. W. Robinson (2 plants)	Monterey
Thomas Fisheries, Anthony N. Thomas	Moss Landing
Western Fish Products Co., K. Hovden	Moss Landing
Western Sardine Co., Inc., Joe DiMaggio	Monterey

SAN FRANCISCO DISTRICT

American Sardine Co., Matt Martin	Benicia
Benicia Food Products Co., V. B. Alioto (2)	Benicia
F. E. Booth Co., Inc., A. H. Mendonca	San Francisco
Borden Special Products Division, Robert Cole	Eureka
Calif. Fish Products Co., E. L. Roesling	Pt. San Pablo
Carquinez Fisheries, John Costanza	Pt. San Pablo
Cypress Fisheries, W. L. Martignoni	Pt. San Pablo
East Bay Fisheries, F. J. Mullins	Pt. San Pablo
Edible Fish Meals & Oils, I. M. Isaacs	Pt. San Pablo
Fish-Dee-Lish Corp., E. L. Roesling	Pt. San Pablo
Fish Packers, Inc., Mrs. Pearl Kirchmann	McNear's Pt.
Gardenia Fisheries, Mrs. Pearl Kirchmann	Pt. San Pablo
Golden State Fisheries, C. J. Garibotti	Benicia
Elwyn C. Hale Fisheries, Mrs. Mabel E. Hale and Elwyn C. Hale (2 plants)	Pt. San Pablo
Hoffman Packing Co., E. L. Roesling	McNear's Pt.
J. D. Packing Co., J. A. Davi and J. DiMaggio (2)	San Francisco
Keystone Fisheries, A. G. Magnuson	San Francisco
Lansing Fisheries, W. L. Martignoni	San Francisco
Maritime Industries, Max Hoffman	Field's Landing
Martinez Food Canners, John Costanza	Martinez
McLaughlin Fisheries, D. Crivello	Pt. San Pablo
Monitor Fisheries, E. C. Webber	Pt. San Pablo
Northern Packing Corp., Geo. Christo	San Francisco
Old Capitol Packers, Inc., E. L. Roesling	McNear's Pt.
Ozol Packing Co., Frank Mezin	Ozol
Pittsburg Canners, Inc., J. G. Burnette	Pt. San Pablo
Pt. Edith Fisheries, Inc., Charles Cohn	Port Chicago
Polarine Fisheries, Inc., E. T. Meakin	Pt. San Pablo
Princeton Packers, A. M. Patrick	Princeton
Red Rock Fisheries, Inc., J. H. Dempsey (2)	Pt. San Pablo
Redondo Fish Prod. Co., Jack Cardinalli (2)	Pt. San Pablo
Richmond Fisheries, Inc., Julian G. Burnette	Pt. San Pablo
Royal Soap & Tallow Co., L. Martinelli	San Francisco
San Pablo, Barge, E. M. Darrimon	Pt. San Pablo
San Pablo Fisheries, J. H. Dempsey	Pt. San Pablo
Sardine Fisheries, Ltd., Frank Mezin	Ozol
St. Anne Freezing & Proc. Co., Louis B. Harder	San Francisco
Tamalpais Fishing & Packing Co., J. J. Dorsey (2)	Pt. San Pablo
Valianos, Inc., John Valianos	San Francisco
Winged Victory Fish Prod. Corp., Geo. J. Christo	San Francisco

SAN PEDRO DISTRICT

Cal-Cap Fisheries, Tony Ostoich	Wilmington
Calif. Marine Curing & Pkg. Co., Max J. Gorby	Terminal Island
Calif. Sea Food Co., Meyer Simon	Long Beach
Coast Fishing Co., J. R. Biven	Wilmington
Franco-Italian Packing Corp., Jos. Mardesich	Terminal Island
French Sardine Co., Joseph J. Bogdanovich (2)	Terminal Island
K & M Fisheries, M. D. Marsh	Long Beach
Pan-Pacific Fisheries, Inc.	Terminal Island
South Coast Fisheries, Inc., Peter A. Kuglis	Terminal Island
South Pacific Canning Co., M. D. Marsh	Long Beach
Southern California Fish Corp., Wilbur Wood	Terminal Island
Terminal Island Sea Foods, Ltd., Herbert C. Davis	Terminal Island
Van Camp Sea Food Co., Gilbert C. Van Camp	Terminal Island
West Coast Packing Corp., Albert Vignolo	Long Beach

SAN DIEGO DISTRICT

American Processing Co., Lawrence Oliver	San Diego
High Seas Tuna Packing Co., Earl Nielsen	Pt. Loma
Sun Harbor Packing Co., Jack Crivello	San Diego
Westgate Sea Products Co., W. Wade Ambrose	San Diego

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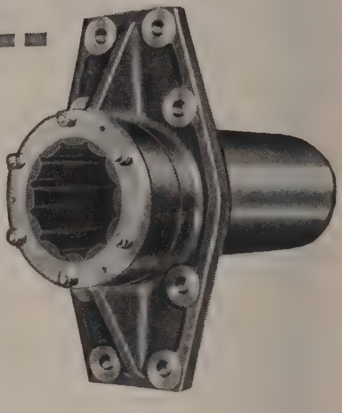

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ern Whaling Co., headed by Clark Gibson, who has other substantial interests in the logging and fishing industries. It was reported that British Columbia Packers, Ltd., and Nelson Bros. Fisheries, Ltd., two of the larger factors in the British Columbia fishing business, were participating in the whaling enterprise.

Oil and Meal Markets

Little sardine oil was sold before June and July, 1947, except a small amount which sold in southern California for 13c per lb. In the latter part of September and the first part of October the market picked up speed, and sardine oil was selling at 17, 18, and 19c per lb.

By the end of the year, California's production was oversold, and as the year ended the market was steady at 21c-lb. with no offerings. But before trading stopped, some lots had been sold as high as 24c.

This compares with 1946 when practically all trading took place at 21-22c.

At the opening of the sardine season in August, 1947, meal was selling for $120-140 per ton depending on the protein content. There were also said to have been some lots sold for as low as $105-112.50 per ton, but at these prices few deliveries were made due to lack of production, from plants accepting these prices.

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•

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The market advanced until at the close of the year sales were being made in southern California at $162-179 per ton, and in Monterey $165-192.50 per ton. By the end of the year practically all meal had been sold, and southern California plants were over sold. The meal market was moderately active all year long.

Top prices during 1946 were just about those of 1947.

Going into the 1948 season, the oil and meal market outlook was strong, but fishermen were making this fact the foundation for fish price demands which processors declared would compel closure of operations.

Pre-season asking-price for Alaska herring was said to be 45c per bbl., more than twice the 1947 settlement.

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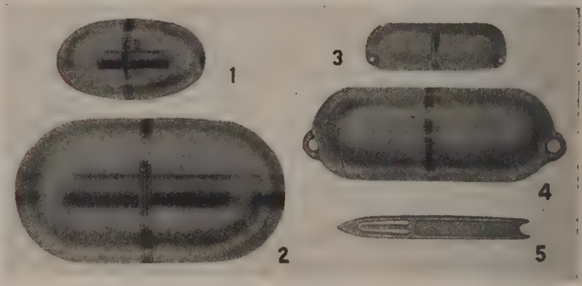

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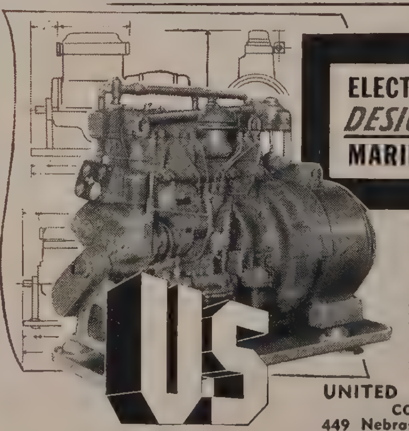

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1947—LOS ANGELES-SAN PEDRO AREA FISH FREEZINGS—1947

Species	Frozen Dec. 1946	Frozen Jan. 1947	Frozen February	Frozen March	Frozen April	Frozen May	Frozen June	Frozen July	Frozen August	Frozen September	Frozen October	Frozen November	Total Frozen Pounds
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
Bait and Animal Food	70,843	61,767	31,777	7,024	14,540	65,877	*	40,000	72,678	54,147	43,122	19,552	**481,327**
FILLETS:													
Cod													
Flounder (incl. sole)	3,180	840		280		600		1,393	4,101	4,820	4,761	14,362	**34,337**
Mackerel			1,720										**1,720**
Other fillets	33,599	2,805	5,321	1,500	13,581	7,124		867	1,647	5,170	365	2,733	**74,712**
Flounders (incl. sole, fluke, Calif. halibut, etc., ex. fillets)	774		4,000	823		2,603		6,845	9,018	1,300		218	**25,581**
Halibut						8,423		9,934	19,058	741	75		**38,231**
Mackerel (ex. fillets and Spanish and King)	4,860	2,453	8,869	940	390	4,275		2,140	8,399	7,953	13,136	4,610	**58,025**
Sablefish (Black Cod)				396	500	900		1,136				622	**3,554**
SALMON:													
King or Chinook						4 266		30,283	28,602	67,455	548		**131,154**
Silver or Coho		400				3,768		119,282	33,840	33,853	252	14,444	**205,839**
Fall or Chum											9,324		**9,324**
Pink								133		2,484			**2,617**
Unclassified									69,186	138,044		840	**208,070**
Shad (incl. roe shad)						14,282							**14,282**
Shad roe						975							**975**
Smelt		1,200						748			700	310	**2,958**
Swordfish								19,170	75,886	84,530	29,569	266	**209,421**
Tuna			10,884	736	2,417	942		132,169	300,491	163,738	5,382	379	**617,132**
Unclassified saltwater fish	68,080	11,567	262,534	65,943	115,237	194,425		280,108	52,560	89,599	44,464	49,824	**1,233,801**
Total	**181,336**	**81,032**	**325,105**	**77,642**	**146,659**	**308,460**		**644,208**	**675,466**	**653,834**	**151,698**	**108,160**	3,353,060

*Data not available.

1947—LOS ANGELES-SAN PEDRO AREA SHELLFISH FREEZINGS—1947

Species	Frozen Dec. 1946	Frozen Jan. 1947	Frozen February	Frozen March	Frozen April	Frozen May	Frozen June	Frozen July	Frozen August	Frozen September	Frozen October	Frozen November	Total Frozen Pounds
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
Shellfish:													
Clams								200			200	50	**450**
Crab (incl. crabmeat)	1,825	5,495	1,105	9,390	12,985	30,196		4,010		300	400	652	**66,358**
Lobster tails (spiny)	44,537	79,360	89,271	40,258				5,600	12,385	2,865	16,100	12,802	**303,178**
Oysters	1,170	840		2,814		2,560		2,251		152		104	**8,891**
Scallops													
Shrimp (incl. shrimpmeat)	23,000	20,238	192,114	170,618	128,070	36,010		28,532	71,868	70,953	111,204	93,208	**945,815**
Squid	88,040	4,410	8,230		78,365	1,094		46,800	42,400	109,184	160,200	30,950	**569,673**
Unclassified shellfish	80							5,006	1,097				**6,183**
Total Shellfish	**158,652**	**110,343**	**290,720**	**223,080**	**219,420**	**69,860**		**92,399**	**127,750**	**183,454**	**288,104**	**137,766**	**1,900,548**

*Data not available.

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OREGON TRAWL FISH LANDINGS

1947	January Pounds	February Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	September Pounds	October Pounds	November Pounds	December Pounds	Total 9 Months
SOLE—													
Petrale	29,778	35,042	78,952	144,462	297,964	87,079	504,805	58,765	99,034				1,335,881
English	89,793	74,740	91,760	227,694	218,706	125,896	325,077	285,446	221,960				1,661,072
Dover				3,069	40,932	429,687	758,741	229,271	412,256				1,873,956
Other Sole	15,344	640	4,894	3,801	4,356	12,972	1,650	12,740	41,255				97,652
Total Sole	**134,915**	**110,422**	**175,606**	**379,026**	**561,958**	**655,634**	**1,590,273**	**586,222**	**774,505**				**4,968,561**
Flounders	8,126	77,033	22,183	86,781	110,283	29,365	5,336	66,855	105,417				511,379
"Turbot"			3,911	27,526	238,191	30,598	246,835	70,099	71,949				689,109
"Cod" Miscellaneous	26	830	9,190	858	7,780	728	3,194	3,817	2,242				28,665
Lingcod	26,245	39,040	62,577	74,236	66,700	31,438	88,366	38,034	85,970				512,606
Rockfish	454,418	1,076,820	306,497	842,619	641,913	435,838	237,234	57,732	98,332				4,151,403
Dogfish		2,994				33,010	7,335						43,339
Total Fish	**623,730**	**1,307,139**	**579,964**	**1,411,046**	**1,626,825**	**1,216,611**	**2,178,573**	**822,759**	**1,138,415**				**10,905,062**
LIVERS—													
Dogfish	55,336	13,653	37,819	27,900	5,541	8,826	7,885	2,870	19,017				178,847
Miscellaneous	12,564	15,116	6,362	2,436	2,067	2,451	5,385	10,963	12,647				69,991

1946	January Pounds	February Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	September Pounds	October Pounds	November Pounds	December Pounds	TOTAL 1946
SOLE—													
Petrale	16,589	4,183	30,087	463,758	711,897	398,629	344,343	306,428	470,564	162,272	50,041	25,301	2,984,092
English	84,534	56,506	110,384	323,696	616,321	687,944	540,901	498,047	693,378	135,250	152,022	51,626	3,950,609
Dover			855	3,638	321,594	821,318	714,411	637,142	675,677	21,620	1,733		3,197,988
Other Sole	1,625	1,644	2,706	33,819	32,715	11,023	4,533	6,227	14,176	5,237	8,924	9,507	132,136
Total Sole	**102,748**	**62,333**	**144,032**	**824,911**	**1,682,527**	**1,918,914**	**1,604,188**	**1,447,844**	**1,853,795**	**324,379**	**212,720**	**86,434**	**10,264,825**
Flounders	15,903	42,890	10,253	28,514	198,064	236,780	432,011	143,065	66,628	59,164	22,422	24,145	1,279,839
"Turbot"		787	1,050	1,895	52,708	45,627	45,603	79,296	65,591	5,151			297,708
"Cod" Miscellaneous	1,190	1,705	1,722	7,109	60,732	79,793	31,643	33,575	36,557	1,714	3,517	1,317	260,574
Lingcod	12,345	13,319	32,819	121,041	160,841	134,634	262,163	108,378	142,668	56,999	74,986	30,610	1,150,803
Rockfish	196,633	205,036	669,049	1,337,688	463,669	1,305,622	3,325,045	378,711	887,001	905,803	759,822	236,933	10,671,012
Dogfish					90					31,220			31,310
Total Fish	**328,819**	**326,070**	**858,925**	**2,321,158**	**2,618,631**	**3,721,370**	**5,700,653**	**2,190,869**	**3,052,240**	**1,384,430**	**1,073,467**	**379,439**	**23,956,071**
LIVERS—													
Dogfish	16,992	14,290	9,208	27,907	72,028	18,102	3,436	6,000	45,548	12,427	88,772	58,315	373,025
Miscellaneous	6,429	4,424	7,019	5,569	2,749	56,281	9,484	38,653	43,451	23,980	22,115	13,772	233,926

1945	January Pounds	February Pounds	March Pounds	April Pounds	May Pounds	June Pounds	July Pounds	August Pounds	September Pounds	October Pounds	November Pounds	December Pounds	TOTAL 1945
SOLE—													
Petrale	9,905	14,200	23,557	97,171	254,300	379,278	211,680	138,287	71,156	222,896	27,938	123,775	1,574,143
English	14,045	32,231	45,311	72,078	118,034	76,286	37,756	85,545	121,057	153,689	83,990	256,579	1,096,601
Dover				1,969	36,107	139,089	806,435	214,028	1,075,664	378,412	52,512		2,704,216
Other Sole	110	12,853	5,573	4,640	42,767	2,055	33,691	12,992	14,312	41,967	49,633	17,914	238,507
Total Sole	**24,060**	**59,284**	**74,441**	**175,858**	**451,208**	**596,708**	**1,089,562**	**450,852**	**1,282,189**	**796,964**	**214,073**	**398,268**	**5,613,467**
Flounders	6,707	30,075	58,667	18,001	148,624	40,610	27,552	71,384	106,294	167,306	10,589	338,479	1,024,288
"Turbot"				8,744	21,428	40,991	33,685	16,076	18,030	29,643	214		168,811
"Cod" Miscellaneous		211	429	4,833	16,173	164,031	91,499	10,488	37,889	74,070	1,454	11,654	412,731
Lingcod	14,650	18,773	10,732	89,792	189,535	117,025	92,918	156,419	89,930	167,404	23,573	44,464	1,015,215
Rockfish	118,002	324,692	223,639	2,707,888	3,599,411	5,185,242	2,921,102	204,698	172,954	653,250	305,564	949,424	17,365,866
Dogfish	1,048			20,972	111	347	10,420	215	5,484	1,219	738		40,554
Total Fish	**164,467**	**433,035**	**367,908**	**3,026,088**	**4,426,490**	**6,144,954**	**4,266,738**	**910,132**	**1,712,770**	**1,889,856**	**556,205**	**1,742,289**	**25,640,932**
LIVERS—													
Dogfish	14,431	4,558	20,040	10,153	13,097	34,698	26,266	45,900	13,031	22,592	1,312	60,324	266,402
Miscellaneous	10,819	1,798	2,370	2,828	5,302	9,157	17,419	15,329	12,561	21,598	13,645	25,382	138,208

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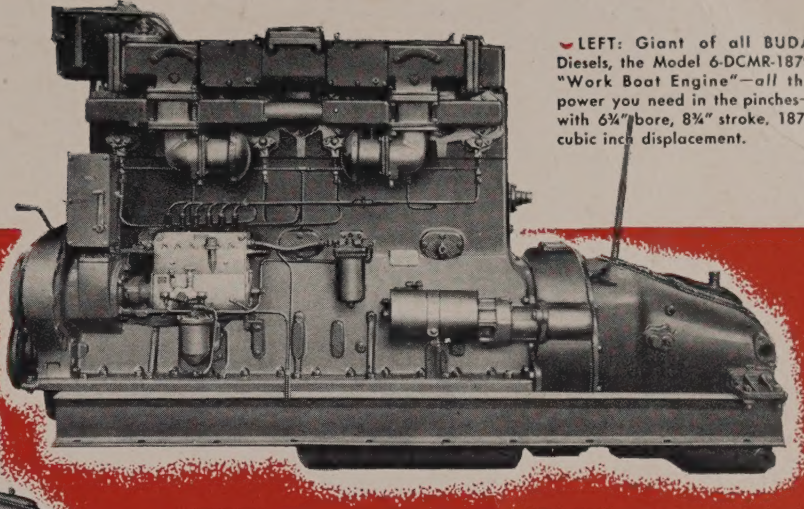

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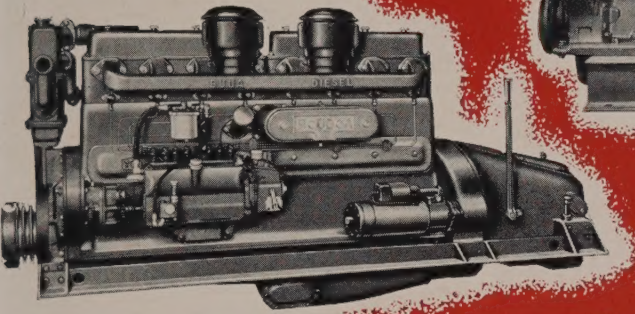

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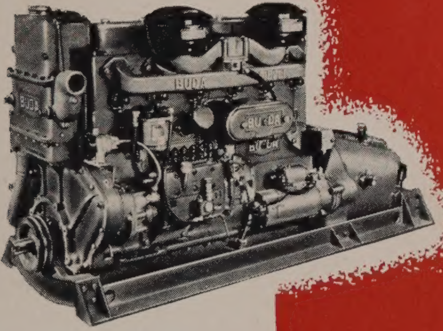
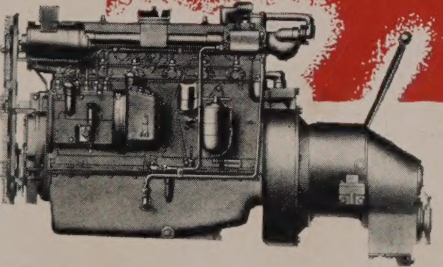


● RIGHT: New 6-cylinder BUDA Diesel Model 6-BDMR-230, with 3 7/16" bore, 4⅛" stroke, 230 cubic inch displacement. Shown with reverse and reduction gear.



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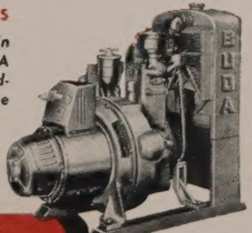

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